

Limit cycle bifurcations near a double homoclinic loop with a nilpotent saddle of order 2 *

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Abstract: In this paper, we deal with limit cycle bifurcations near a double homoclinic loop with a nilpotent saddle of order 2 by studying expansions of the first order Melnikov functions near the loop and coefficients in these expansions. More precisely, we prove that the perturbed system can have 11, 13, 14 or 16 limit cycles in a neighborhood of the loop under certain conditions. Finally, we give an example to illustrate the effectiveness of our main results.

Keywords: homoclinic loop; saddle; Hamiltonian; Melnikov; limit cycle bifurcation.

MSC: 34C05; 34C07; 37G15.

1 Introduction

Consider a near-Hamiltonian system of the form

$$\dot{x} = H_y + \epsilon p(x, y, \delta), \quad \dot{y} = -H_x + \epsilon q(x, y, \delta) \quad (1.1)$$

where $H(x, y)$, $p(x, y, \delta)$, $q(x, y, \delta)$ are C^∞ functions, $\delta \in D \subset \mathbb{R}^m$ with D a compact set and $\epsilon \geq 0$ is a small parameter. For $\epsilon = 0$, (1.1) becomes a Hamiltonian system

$$\dot{x} = H_y, \quad \dot{y} = -H_x. \quad (1.2)$$

For (1.2) we assume that there exists a family of periodic orbits $L_h, h \in J$ defined by $H(x, y) = h$ with J an open interval and $\{L_h\}$ has a center or an invariant curve as its boundary. For (1.1), the main task is to study the number of limit cycles bifurcated from

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the periodic orbits $\{L_h\}$ of the unperturbed system (1.2). For this case, the first order Melnikov function

$$M(h, \delta) = \oint_{L_h} qdx - pdy$$

plays an important role. See [4, 16].

When the center is elementary and the invariant curve is a homoclinic loop or a double homoclinic loop with a hyperbolic saddle, or a heteroclinic loop with more than one hyperbolic saddle, there have been many contributions in studying the corresponding bifurcation of limit cycles. See [3, 5–7, 10, 12, 13, 15, 18, 20, 22] and references therein. When the critic point is nilpotent and at the origin, by [3], without loss of generality, $H(x, y)$ can be expanded as

$$H(x, y) = \frac{1}{2}y^2 + \sum_{i+j \geq 3} h_{i,j}x^i y^j \quad (1.3)$$

for (x, y) near $(0, 0)$. And by the implicit function theorem, there exists a unique C^∞ function $\varphi(x)$ such that $H_y(x, \varphi(x)) = 0$ for $|x|$ sufficiently small. Thus, we have

$$H(x, \varphi(x)) = \sum_{j \geq k} h_j x^j, \quad h_k \neq 0, \quad k \geq 3 \quad (1.4)$$

in which k , h_k can be used to judge the type of the singularity and the expressions of h_j , $j = 3, 4, \dots, 14$ are shown in the Appendix. For more references, see Section 3.4 in [3] or [9]. For the nilpotent critical point bifurcations, there also have been many works. See [1–3, 8, 11, 14, 17, 19, 21, 23] for instance. In (1.4), if $h_3 \neq 0$, the origin is a cusp of order 1. Limit cycle bifurcations of system (1.1) near a homoclinic loop passing through it has been studied in [14]. And 3, 5 or 6 limit cycles are gotten under some conditions.

If $h_3 = 0$, $h_4 > 0$, then the origin is a nilpotent center of order 1. In this case, the asymptotic expansion of M at $h = 0$ has been studied in [8], which can be used to find the limit cycles of system (1.1) in a neighborhood of the origin.

When $h_3 = 0$, $h_4 < 0$, the origin is a nilpotent saddle of order 1. The works in [3, 11] studied the number of limit cycles for system (1.1) near the loop which is homoclinic or double homoclinic. As a result, on some conditions there can exist 1, 2, 3, 4, 5, 6, 8, 10 or 12 limit cycles.

When $h_3 = h_4 = 0$, $h_5 \neq 0$, the origin is a cusp of order 2, which is a more degenerate case. In [1] and [17], it was proved that 3, 5, 7, 9, 10 or 12 limit cycles can exist for system (1.1) near the homoclinic loop which passes through the origin.

If $h_3 = h_4 = h_5 = 0$, $h_6 < 0$, the origin is a nilpotent saddle of order 2. In this paper, we will study the number of limit cycles bifurcated from a double homoclinic loop with a nilpotent saddle of order 2. From [11], we know that a double homoclinic loop with a nilpotent saddle consists of two homoclinic loops both of cuspidal type or smooth type.

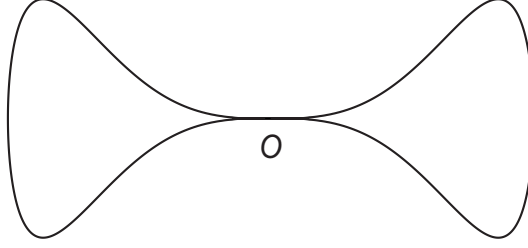


Figure 1. Double homoclinic loop of cuspidal type with a nilpotent saddle

In view of the similarity in proof and effectiveness of finding more limit cycles, we just study the problem for cuspidal type (as shown in Figure 1). Our main results and proof are presented in the following two sections.

2 Main results and proof

Now we suppose that the unperturbed system (1.2) has a nilpotent saddle of order 2 at the origin and a double homoclinic loop of cuspidal type $L_0^* = L_0 \cup \tilde{L}_0$ defined by $H(x, y) = 0$ passes through it, where $L_0 = L_0^*|_{x \geq 0}$, $\tilde{L}_0 = L_0^*|_{x \leq 0}$. Then we can assume that (1.3) and (1.4) hold with

$$h_3 = h_4 = h_5 = 0, \quad h_6 < 0. \quad (2.1)$$

Otherwise, we suppose that the level curves of $H(x, y) = h$ define three families of periodic orbits L_h, \tilde{L}_h, L_h^* (see Figure 2). By (1.3) we can easily see L_0^* is oriented clockwise and further, by Lemma 3.1.2(i) in [3], these periodic orbits can be denoted as $L_h = \{H(x, y) = h, 0 < -h \ll 1, x > 0\}$, $\tilde{L}_h = \{H(x, y) = h, 0 < -h \ll 1, x < 0\}$, $L_h^* = \{H(x, y) = h, 0 < h \ll 1\}$ respectively, which yield three Melnikov functions

$$\begin{aligned} M(h, \delta) &= \oint_{L_h} qdx - pdy, \\ \tilde{M}(h, \delta) &= \oint_{\tilde{L}_h} qdx - pdy, \\ M^*(h, \delta) &= \oint_{L_h^*} qdx - pdy. \end{aligned} \quad (2.2)$$

We will give their expressions in the following lemma by combining with Theorem 2.1, Lemma 2.2, Lemma 2.3, Lemma 2.5 and Lemma 2.6 in [11]. Let

$$p(x, y, \delta) = \sum_{i+j \geq 0} a_{ij} x^i y^j, \quad q(x, y, \delta) = \sum_{i+j \geq 0} b_{ij} x^i y^j. \quad (2.3)$$

Lemma 2.1. *Consider systems (1.1) and suppose that system (1.2) has a double homoclinic loop L_0^* of cuspidal type as stated before. Let (1.3), (1.4), (2.1) and (2.3) hold.*

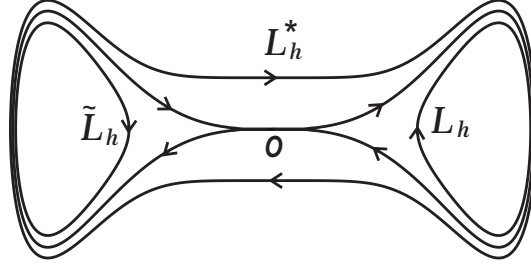


Figure 2. Three families of periodic orbits near the loop

Then for the three Melnikov functions in (2.2), we have

$$\begin{aligned}
M(h, \delta) &= \varphi(h, \delta) - \frac{h \ln |h|}{12} I_{12}^*(h) + |h|^{\frac{2}{3}} (\tilde{A}_0 I_{10}^*(h) + \tilde{A}_1 I_{11}^*(h) |h|^{\frac{1}{6}} + \tilde{A}_3 I_{13}^*(h) |h|^{\frac{1}{2}} \\
&\quad + \tilde{A}_4 I_{14}^*(h) |h|^{\frac{2}{3}}), \quad \text{for } 0 < -h \ll 1, \\
\tilde{M}(h, \delta) &= \tilde{\varphi}(h, \delta) - \frac{h \ln |h|}{12} I_{12}^*(h) + |h|^{\frac{2}{3}} (\tilde{A}_0 I_{10}^*(h) - \tilde{A}_1 I_{11}^*(h) |h|^{\frac{1}{6}} - \tilde{A}_3 I_{13}^*(h) |h|^{\frac{1}{2}} \\
&\quad + \tilde{A}_4 I_{14}^*(h) |h|^{\frac{2}{3}}), \quad \text{for } 0 < -h \ll 1, \\
M^*(h, \delta) &= \varphi^*(h, \delta) - \frac{h \ln h}{6} J_{11}^*(h) + 2\bar{A}_0 J_{10}^*(h) h^{\frac{2}{3}} + 2\bar{A}_2 J_{12}^*(h) h^{\frac{4}{3}}, \quad \text{for } 0 < h \ll 1
\end{aligned}$$

where $\varphi(h, \delta)$, $\tilde{\varphi}(h, \delta)$ and $\varphi^*(h, \delta)$ are C^∞ functions for h near $h = 0$,

$$\begin{aligned}
\tilde{A}_0 &= -\frac{3}{4} \int_0^1 \frac{v dv}{\sqrt{1-v^6}} \approx -0.5258182896 < 0, \\
\tilde{A}_1 &= -\frac{3}{5} \int_0^1 \frac{dv}{\sqrt{1-v^6}} \approx -0.7285951942 < 0, \\
\tilde{A}_3 &= -\frac{3}{7} \left[\int_0^1 \frac{v^4 dv}{\sqrt{1-v^6}(1+\sqrt{1-v^6})} - 1 \right] \approx 0.3200718001 > 0, \\
\tilde{A}_4 &= -\frac{3}{8} \left[\int_0^1 \frac{v^3 dv}{\sqrt{1-v^6}(1+\sqrt{1-v^6})} - \frac{1}{2} \right] \approx 0.0808471737 > 0, \\
\bar{A}_0 &= \frac{3}{4} \int_0^\infty \frac{dv}{\sqrt{1+v^6}} \approx 1.051636580 > 0, \\
\bar{A}_2 &= -\frac{3}{8} \int_0^\infty \frac{v dv}{\sqrt{1+v^6}(v^3 + \sqrt{1+v^6})} \approx -0.1616943474 < 0,
\end{aligned} \tag{2.4}$$

and

$$\begin{aligned}
I_{10}^* &= \tilde{r}_{00} + \left(\frac{9}{10} \tilde{r}_{01} - \frac{1}{10} \tilde{r}_{60} \right) h + O(h^2), \quad I_{11}^* = \tilde{r}_{10} + \left(\frac{9}{11} \tilde{r}_{11} - \frac{2}{11} \tilde{r}_{70} \right) h + O(h^2), \\
I_{12}^* &= \tilde{r}_{20} + \left(\frac{3}{4} \tilde{r}_{21} - \frac{1}{4} \tilde{r}_{80} \right) h + O(h^2), \quad I_{13}^* = \tilde{r}_{30} + O(h), \quad I_{14}^* = \tilde{r}_{40} + O(h), \\
J_{10}^* &= r_{01}^{(1)} + \left(\frac{9}{10} r_{03}^{(1)} - \frac{1}{10} r_{31}^{(1)} \right) h + O(h^2), \quad J_{11}^* = r_{11}^{(1)} + \left(\frac{3}{4} r_{13}^{(1)} - \frac{1}{4} r_{41}^{(1)} \right) h + O(h^2), \\
J_{12}^* &= r_{21}^{(1)} + O(h)
\end{aligned} \tag{2.5}$$

where \tilde{r}_{kl} , $r_{kl}^{(1)}$, $k, l \geq 0$ are functions of a_{ij} , b_{ij} , h_{ij} . See the Appendix for their concrete expressions.

By Lemma 2.1, we will study the expansions of the three Melnikov functions at $h = 0$ and formulas of coefficients in these expansions in the following theorem.

Theorem 2.1. *Consider system (1.1). Let (1.3), (1.4), (2.1), (2.3) hold, and $L_0^* = L_0 \cup \tilde{L}_0$ be a double homoclinic loop of cuspidal type defined by $H(x, y) = 0$ where $L_0 = L_0^*|_{x \geq 0}$, $\tilde{L}_0 = L_0^*|_{x \leq 0}$. Then for the three functions in (2.2), we have*

$$M(h, \delta) = c_0 + c_1|h|^{\frac{2}{3}} + c_2|h|^{\frac{5}{6}} + c_3h \ln |h| + c_4h + c_5|h|^{\frac{7}{6}} + c_6|h|^{\frac{4}{3}} + c_7|h|^{\frac{5}{3}} \\ + c_8|h|^{\frac{11}{6}} + c_9h^2 \ln |h| + O(h^2), \quad \text{for } 0 < -h \ll 1, \quad (2.6)$$

$$\tilde{M}(h, \delta) = \tilde{c}_0 + c_1|h|^{\frac{2}{3}} - c_2|h|^{\frac{5}{6}} + c_3h \ln |h| + \tilde{c}_4h - c_5|h|^{\frac{7}{6}} + c_6|h|^{\frac{4}{3}} + c_7|h|^{\frac{5}{3}} \\ - c_8|h|^{\frac{11}{6}} + c_9h^2 \ln |h| + O(h^2), \quad \text{for } 0 < -h \ll 1, \quad (2.7)$$

$$M^*(h, \delta) = c_0^* + 2c_1^*h^{\frac{2}{3}} + 2c_2^*h \ln h + c_3^*h + 2c_4^*h^{\frac{4}{3}} + 2c_5^*h^{\frac{5}{3}} + 2c_6^*h^2 \ln h \\ + O(h^2), \quad \text{for } 0 < h \ll 1 \quad (2.8)$$

where

$$c_0 = M(0, \delta) = \oint_{L_0} qdx - pdy, \quad \tilde{c}_0 = \tilde{M}(0, \delta) = \oint_{\tilde{L}_0} qdx - pdy, \\ c_1 = \tilde{A}_0\tilde{r}_{00}, \quad c_2 = \tilde{A}_1\tilde{r}_{10}, \quad c_3 = -\frac{1}{12}\tilde{r}_{20}, \\ c_4 = \oint_{L_0} (p_x + q_y - \sigma_0 - \sigma_1x - \sigma_3x^2)dt + O(|c_1| + |c_2| + |c_3|), \quad \text{if } \sigma_2 = 0, \\ \tilde{c}_4 = \oint_{\tilde{L}_0} (p_x + q_y - \sigma_0 - \sigma_1x - \sigma_3x^2)dt + O(|c_1| + |c_2| + |c_3|), \quad \text{if } \sigma_2 = 0, \\ c_5 = \tilde{A}_3\tilde{r}_{30}, \quad c_6 = \tilde{A}_4\tilde{r}_{40}, \quad c_7 = -\tilde{A}_0\left(\frac{9}{10}\tilde{r}_{01} - \frac{1}{10}\tilde{r}_{60}\right), \\ c_8 = -\tilde{A}_1\left(\frac{9}{11}\tilde{r}_{11} - \frac{2}{11}\tilde{r}_{70}\right), \quad c_9 = -\frac{1}{12}\left(\frac{3}{4}\tilde{r}_{21} - \frac{1}{4}\tilde{r}_{80}\right), \\ c_0^* = c_0 + \tilde{c}_0, \quad c_1^* = \bar{A}_0r_{01}^{(1)}, \quad c_2^* = -\frac{1}{12}r_{11}^{(1)}, \\ c_3^* = \oint_{L_0^*} (p_x + q_y - \sigma_0 - \sigma_1x - \sigma_3x^2)dt + O(|c_1| + |c_2| + |c_3|), \quad \text{if } \sigma_2 = 0, \\ c_4^* = \bar{A}_2r_{21}^{(1)}, \quad c_5^* = \bar{A}_0\left(\frac{9}{10}r_{03}^{(1)} - \frac{1}{10}r_{31}^{(1)}\right), \quad c_6^* = -\frac{1}{12}\left(\frac{3}{4}r_{13}^{(1)} - \frac{1}{4}r_{41}^{(1)}\right), \quad (2.9)$$

$\sigma_0 = (p_x + q_y)|_{x=y=0}$, $\sigma_1 = (p_{xx} + q_{yy})|_{x=y=0}$, $\sigma_2 = (p_{xy} + q_{yy})|_{x=y=0}$, $\sigma_3 = \frac{1}{2}(p_{xxx} + q_{yxx})|_{x=y=0}$ and \tilde{r}_{ij} , $r_{kl}^{(1)}$, $i, j, k, l \geq 0$ appear in (2.5), $\tilde{A}_0, \tilde{A}_1, \tilde{A}_3, \tilde{A}_4, \bar{A}_0, \bar{A}_2$ appear in (2.4).

Proof. By Lemma 2.1, it is easy to see that

$$c_0 = \varphi(0, \delta) = M(0, \delta) = \oint_{L_0} qdx - pdy, \\ \tilde{c}_0 = \tilde{\varphi}(0, \delta) = \tilde{M}(0, \delta) = \oint_{\tilde{L}_0} qdx - pdy,$$

$$c_0^* = \varphi^*(0, \delta) = M^*(0, \delta) = \oint_{L_0^*} qdx - pdy = c_0 + \tilde{c}_0.$$

Now we study the formulas of c_4 , \tilde{c}_4 , c_3^* . By (2.3), it follows that

$$\begin{aligned}\sigma_0 &= (p_x + q_y)|_{x=y=0} = a_{10} + b_{01}, \\ \sigma_1 &= (p_{xx} + q_{yx})|_{x=y=0} = 2a_{20} + b_{11}, \\ \sigma_2 &= (p_{xy} + q_{yy})|_{x=y=0} = a_{11} + 2b_{02}, \\ \sigma_3 &= \frac{1}{2}(p_{xxx} + q_{yxx})|_{x=y=0} = 3a_{30} + b_{21}.\end{aligned}$$

Then by the Appendix, we can calculate the following formulas

$$\begin{aligned}\tilde{r}_{00} &= r_{01}^{(1)} = 2\sqrt{2}(-h_6)^{-\frac{1}{6}}\sigma_0, \\ \tilde{r}_{10} &= 2\sqrt{2}\left[\left(\frac{1}{3}h_7(-h_6)^{-\frac{4}{3}} - h_{1,2}(-h_6)^{-\frac{1}{3}}\right)\sigma_0 + (-h_6)^{-\frac{1}{3}}\sigma_1\right], \\ \tilde{r}_{20} &= r_{11}^{(1)} = \frac{\sqrt{2}}{4}(-h_6)^{-\frac{5}{2}}[(24h_6^2h_{0,3}h_{2,1} + 12h_6^2h_{1,2}^2 - 8h_6^2h_{2,2} + 4h_6h_7h_{1,2} - 4h_6h_8 \\ &\quad + 3h_7^2)\sigma_0 + (-8h_6^2h_{1,2} - 4h_6h_7)\sigma_1 - 8h_6^2h_{2,1}\sigma_2 + 8h_6^2\sigma_3]\end{aligned}\tag{2.10}$$

which can deduce the expressions of c_1 , c_2 , c_3 , c_1^* , c_2^* . Let $p_x + q_y = \sigma_0 + \sigma_1x + \sigma_2y + \sigma_3x^2 + x^3f(x) + xyg(x, y) + y^2h(y)$. By Lemma 3.1.2(ii) in [3], we have

$$\begin{aligned}M(h, \delta) &= M(0, \delta) + \int_0^h M_h(h, \delta)dh = M(0, \delta) + \int_0^h \left[\oint_{L_h} (p_x + q_y)dt\right] dh \\ &= M(0, \delta) + \sigma_0m_0(h) + \sigma_1m_1(h) + \sigma_2m_2(h) + \sigma_3m_3(h) \\ &\quad + m_4(h) + m_5(h) + m_6(h)\end{aligned}\tag{2.11}$$

where

$$\begin{aligned}m_0(h) &= \int_0^h \left(\oint_{L_h} dt\right) dh, \quad m_1(h) = \int_0^h \left(\oint_{L_h} xdt\right) dh, \\ m_2(h) &= \int_0^h \left(\oint_{L_h} ydt\right) dh, \quad m_3(h) = \int_0^h \left(\oint_{L_h} x^2dt\right) dh, \\ m_4(h) &= \int_0^h \left(\oint_{L_h} x^3f(x)dt\right) dh, \quad m_5(h) = \int_0^h \left(\oint_{L_h} xyg(x, y)dt\right) dh, \\ m_6(h) &= \int_0^h \left(\oint_{L_h} y^2h(y)dt\right) dh.\end{aligned}$$

It is obvious that

$$\begin{aligned}(m_4 + m_5 + m_6)' &= \oint_{L_h} (x^3f(x) + xyg(x, y) + y^2h(y))dt \\ &= \oint_{L_h} (p_x + q_y - \sigma_0 - \sigma_1x - \sigma_2y - \sigma_3x^2)dt.\end{aligned}\tag{2.12}$$

Next, taking $p = 0$ and $q = y, xy, \frac{1}{2}y^2, x^2y, x^3f(x)y, \int_0^y xvg(x, v)dv, \int_0^y v^2h(v)dv$ in (2.11) respectively, we obtain

$$\begin{aligned}
m_0(h) &= \oint_{L_h} ydx - \oint_{L_0} ydx, \\
m_1(h) &= \oint_{L_h} xydx - \oint_{L_0} xydx, \\
m_2(h) &= \oint_{L_h} \frac{1}{2}y^2dx - \oint_{L_0} \frac{1}{2}y^2dx, \\
m_3(h) &= \oint_{L_h} x^2ydx - \oint_{L_0} x^2ydx, \\
m_4(h) &= \oint_{L_h} x^3f(x)ydx - \oint_{L_0} x^3f(x)ydx, \\
m_5(h) &= \oint_{L_h} \left[\int_0^y xvg(x, v)dv \right] dx - \oint_{L_0} \left[\int_0^y xvg(x, v)dv \right] dx, \\
m_6(h) &= \oint_{L_h} \left[\int_0^y v^2h(v)dv \right] dx - \oint_{L_0} \left[\int_0^y v^2h(v)dv \right] dx.
\end{aligned} \tag{2.13}$$

Then applying formula (2.6) to the functions $m_j(h)$ ($0 \leq j \leq 6$) in (2.13), we yields

$$m_j(h) = c_{j1}|h|^{\frac{2}{3}} + c_{j2}|h|^{\frac{5}{6}} + c_{j3}h \ln |h| + c_{j4}h + O(|h|^{\frac{7}{6}}) \tag{2.14}$$

where c_{jk} are constants. Now, substituting (2.14) into (2.11) and comparing with (2.6), we obtain

$$c_4 = \sigma_0 c_{04} + \sigma_1 c_{14} + \sigma_2 c_{24} + \sigma_3 c_{34} + c_{44} + c_{54} + c_{64}.$$

Further, by the formulas of c_1, c_2, c_3 in (2.9) and (2.10), it is easy to verify

$$c_{41} = c_{42} = c_{43} = c_{51} = c_{52} = c_{53} = c_{61} = c_{62} = c_{63} = 0. \tag{2.15}$$

Thus, by (2.12), (2.14) and (2.15), it follows that

$$\begin{aligned}
\oint_{L_0} (p_x + q_y - \sigma_0 - \sigma_1 x - \sigma_2 y - \sigma_3 x^2) dt &= \lim_{h \rightarrow 0} (m_4 + m_5 + m_6)' \\
&= \lim_{h \rightarrow 0} (c_{44} + c_{54} + c_{64} + O(|h|^{\frac{1}{6}})) \\
&= c_{44} + c_{54} + c_{64} \in \mathbb{R}.
\end{aligned}$$

From the above proof, we can see that $\oint_{L_0} ydt$ is infinite. Thus, the integral $\oint_{L_0} (p_x + q_y - \sigma_0 - \sigma_1 x - \sigma_3 x^2)dt$ is finite if and only if $\sigma_2 = 0$. Then, for $\sigma_2 = 0$,

$$c_4 = \oint_{L_0} (p_x + q_y - \sigma_0 - \sigma_1 x - \sigma_3 x^2) dt + b_1 c_1 + b_2 c_2 + b_3 c_3$$

where b_i are constants. The formula for \tilde{c}_4 can be obtained in the same way. By the similar argument, we can obtain

$$c_3^* = \oint_{L_0^*} (p_x + q_y - \sigma_0 - \sigma_1 x - \sigma_2 y - \sigma_3 x^2) dt + \sigma_0 c_{03}^* + \sigma_1 c_{13}^* + \sigma_2 c_{23}^* + \sigma_3 c_{33}^*.$$

And also, $\oint_{L_0^*} (p_x + q_y - \sigma_0 - \sigma_1 x - \sigma_3 x^2) dt$ is finite if and only if $\sigma_2 = 0$. Thus, we get the formulas of c_3^* in (2.9). This ends the proof. \square

By comparing with the expressions of \tilde{r}_{ij} and $r_{kl}^{(1)}$, $i, j, k, l \geq 0$ in the Appendix, we discover that

$$\begin{aligned} \tilde{r}_{00} &= r_{01}^{(1)}, & \tilde{r}_{20} &= r_{11}^{(1)}, & \tilde{r}_{40} &= r_{21}^{(1)}, & \tilde{r}_{60} &= r_{31}^{(1)} \\ \tilde{r}_{80} &= r_{41}^{(1)}, & \tilde{r}_{01} &= r_{03}^{(1)}, & \tilde{r}_{21} &= r_{13}^{(1)}. \end{aligned}$$

So, we have

$$\begin{aligned} c_1^* &= \frac{\bar{A}_0}{\tilde{A}_0} c_1 = -D_1 c_1, & c_2^* &= c_3, & c_4^* &= \frac{\bar{A}_2}{\tilde{A}_4} c_6 = -D_2 c_6, \\ c_5^* &= -\frac{\bar{A}_0}{\tilde{A}_0} c_7 = D_1 c_7, & c_6^* &= c_9, \end{aligned}$$

where $D_1 = |\bar{A}_0|/|\tilde{A}_0|$, $D_2 = |\bar{A}_2|/|\tilde{A}_4|$. Thus

$$\begin{aligned} M^*(h, \delta) &= c_0^* - 2D_1 c_1 h^{\frac{2}{3}} + 2c_3 h \ln h + c_3^* h - 2D_2 c_6 h^{\frac{4}{3}} + 2D_1 c_7 h^{\frac{5}{3}} \\ &\quad + 2c_9 h^2 \ln h + O(h^2). \end{aligned} \tag{2.16}$$

Let

$$\begin{aligned} c_{41} &= \oint_{L_0} (p_x + q_y - \sigma_0 - \sigma_1 x - \sigma_3 x^2) dt, \\ \tilde{c}_{41} &= \oint_{\tilde{L}_0} (p_x + q_y - \sigma_0 - \sigma_1 x - \sigma_3 x^2) dt, \\ c_{31}^* &= \oint_{L^*} (p_x + q_y - \sigma_0 - \sigma_1 x - \sigma_3 x^2) dt. \end{aligned}$$

From the proof of Theorem 2.1, we will see that $c_{41} + \tilde{c}_{41} = c_{31}^*$ if $\sigma_2 = 0$. By using Theorem 2.1, we will study the number of limit cycles near L_0^* as follows.

Theorem 2.2. *Suppose that system (1.2) has a double homoclinic loop L_0^* and the assumptions in Theorem 2.1 are satisfied. If there exist $\delta_0 \in \mathbb{R}^m$, $6 \leq l \leq 9$ such that $c_l(\delta_0) \neq 0$, $\tilde{c}_0(\delta_0) = c_{41}(\delta_0) = \tilde{c}_{41}(\delta_0) = c_j(\delta_0) = 0$, $j = 0, 1, 2, 3, 5, \dots, l-1$, and*

$$\text{rank} \frac{\partial(\tilde{c}_0, c_{41}, \tilde{c}_{41}, c_0, c_1, c_2, c_3, c_5, \dots, c_{l-1})}{\partial(\delta_1, \delta_2, \delta_3, \delta_4, \delta_5, \delta_6, \delta_7, \delta_8, \dots, \delta_m)}(\delta_0) = l + 2,$$

then system (1.1) can have $2l - 2$ ($l = 8, 9$) or $2l - 1$ ($l = 6, 7$) limit cycles near L_0^ for some (ϵ, δ) near $(0, \delta_0)$.*

Proof. In the following, we only prove the theorem when $l = 9$. Then by similar argument, the theorem follows when $l = 6, 7, 8$. For definiteness, we assume $c_9(\delta_0) < 0$.

By the assumptions, we can choose $\tilde{c}_0, c_{41}, \tilde{c}_{41}, c_0, c_1, c_2, c_3, c_5, c_6, c_7, c_8$ as free parameters vary near zero. Thus, when $\sigma_2 = 0$ the formulas of M, \tilde{M}, M^* can be rewritten as

$$\begin{aligned}
M(h, \delta) &= c_0 + c_1|h|^{\frac{2}{3}} + c_2|h|^{\frac{5}{6}} + c_3h \ln |h| + (c_{41} + O(c_1) + O(c_2) + O(c_3))h \\
&\quad + c_5|h|^{\frac{7}{6}} + c_6|h|^{\frac{4}{3}} + c_7|h|^{\frac{5}{3}} + c_8|h|^{\frac{11}{6}} + \tilde{c}_9h^2 \ln |h| + O(h^2) \\
&:= f_1(h, \tilde{c}_0, c_{41}, \tilde{c}_{41}, c_0, c_1, c_2, c_3, c_5, c_6, c_7, c_8), \quad \text{for } 0 < -h \ll 1, \\
\tilde{M}(h, \delta) &= \tilde{c}_0 + c_1|h|^{\frac{2}{3}} - c_2|h|^{\frac{5}{6}} + c_3h \ln |h| + (\tilde{c}_{41} + O(c_1) + O(c_2) + O(c_3))h \\
&\quad - c_5|h|^{\frac{7}{6}} + c_6|h|^{\frac{4}{3}} + c_7|h|^{\frac{5}{3}} - c_8|h|^{\frac{11}{6}} + \tilde{c}_9h^2 \ln |h| + O(h^2) \\
&:= f_2(h, \tilde{c}_0, c_{41}, \tilde{c}_{41}, c_0, c_1, c_2, c_3, c_5, c_6, c_7, c_8), \quad \text{for } 0 < -h \ll 1, \\
M^*(h, \delta) &= c_0 + \tilde{c}_0 - 2D_1c_1h^{\frac{2}{3}} + 2c_3h \ln h + (c_{41} + \tilde{c}_{41} + O(c_1) + O(c_2) + O(c_3))h \\
&\quad - 2D_2c_6h^{\frac{4}{3}} + 2D_1c_7h^{\frac{5}{3}} + 2\tilde{c}_9h^2 \ln h + O(h^2) \\
&:= f_3(h, \tilde{c}_0, c_{41}, \tilde{c}_{41}, c_0, c_1, c_2, c_3, c_5, c_6, c_7, c_8), \quad \text{for } 0 < h \ll 1
\end{aligned}$$

where $\tilde{c}_9 = c_9(\delta_0) + O(|\tilde{c}_0, c_{41}, \tilde{c}_{41}, c_0, c_1, c_2, c_3, c_5, c_6, c_7, c_8|) < 0$. It is easy to verify that

- (1) if $c_0, \tilde{c}_0 \ll -c_1 \ll -c_2 \ll c_3 \ll -c_{41} \ll \tilde{c}_{41} \ll -c_5 \ll c_6 \ll -c_7 \ll -c_8$ (or $c_8 \ll 1$ or $c_0, \tilde{c}_0 \ll -c_1 \ll -c_2 \ll c_3 \ll -\tilde{c}_{41} \ll c_{41} \ll c_5 \ll c_6 \ll -c_7 \ll -c_8$ (or $c_8 \ll 1$), f_1, f_2 and f_3 have 6, 6 and 4 zeros respectively,
- (2) if $c_0 \ll -\tilde{c}_0 \ll -c_1 \ll -c_2 \ll c_3 \ll -c_{41} \ll \tilde{c}_{41} \ll -c_5 \ll c_6 \ll -c_7 \ll -c_8$ (or $c_8 \ll 1$ or $c_0 \ll -\tilde{c}_0 \ll -c_1 \ll -c_2 \ll c_3 \ll -\tilde{c}_{41} \ll c_{41} \ll c_5 \ll c_6 \ll -c_7 \ll -c_8$ (or $c_8 \ll 1$), f_1, f_2 and f_3 have 6, 5 and 5 zeros respectively,
- (3) if $\tilde{c}_0 \ll -c_0 \ll -c_1 \ll -c_2 \ll c_3 \ll -c_{41} \ll \tilde{c}_{41} \ll -c_5 \ll c_6 \ll -c_7 \ll -c_8$ (or $c_8 \ll 1$ or $\tilde{c}_0 \ll -c_0 \ll -c_1 \ll -c_2 \ll c_3 \ll -\tilde{c}_{41} \ll c_{41} \ll c_5 \ll c_6 \ll -c_7 \ll -c_8$ (or $c_8 \ll 1$), f_1, f_2 and f_3 have 5, 6 and 5 zeros respectively.

In each case, there are 16 limit cycles for system (1.1) near L_0^* . This ends the proof. \square

3 Application

In this section, we consider a Liénard system of the form

$$\dot{x} = y, \quad \dot{y} = -8x^5 \left(x - \frac{\sqrt{3}}{2} \right) \left(x + \frac{\sqrt{3}}{2} \right) - \epsilon \left(\sum_{j=0}^{12} a_j x^j \right) y. \quad (3.1)$$

System (3.1) $_{|\epsilon=0}$ is Hamiltonian with

$$H(x, y) = \frac{1}{2}y^2 - x^6 + x^8$$

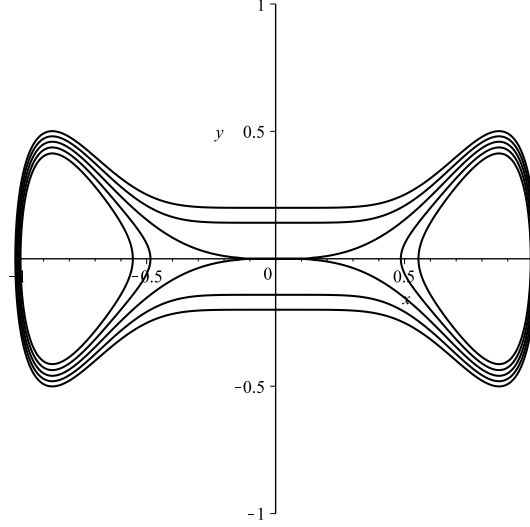


Figure 3. Phase portrait of system (3.1) $_{|\epsilon=0}$

and the phase portrait is shown in Figure 3. It is easy to verify that for the unperturbed system, $O(0,0)$ is a nilpotent saddle of order 2 ($k = 6$, $h_6 = -1$ in (1.4)) and a double homoclinic loop $L_0^* = L_0 \cup \tilde{L}_0$ defined by $H(x, y) = 0$ passing through it, where $L_0 = L_0^*|_{x \geq 0}$, $\tilde{L}_0 = L_0^*|_{x \leq 0}$. Also, there is a center $C_1(\sqrt{3}/2, 0)$ ($C_2(-\sqrt{3}/2, 0)$, resp.) inside L_0 (\tilde{L}_0 , resp.). Then we have the following result.

Theorem 3.1. *Consider system (3.1). Then*

- (1) *If $a_{12} \neq 0$, the system (3.1) can have 16 limit cycles near the loop L_0^* for some $(\epsilon, a_0, a_1, \dots, a_{12})$.*
- (2) *If $a_{12} = 0$, $a_{11} \neq 0$, the system (3.1) can have 14 limit cycles near the loop L_0^* for some $(\epsilon, a_0, a_1, \dots, a_{11})$.*
- (3) *If $a_{12} = a_{11} = 0$, $a_{10} \neq 0$, the system (3.1) can have 13 limit cycles near the loop L_0^* for some $(\epsilon, a_0, a_1, \dots, a_{10})$.*

Proof. Let $f(x, \delta) = \sum_{j=0}^{12} a_j x^j$. By Theorem 2.1, we obtain

$$c_0(\delta) = M(0, \delta) = - \oint_{L_0} f(x, \delta) y dx = - \sum_{j=0}^{12} a_j I_{1j},$$

$$\tilde{c}_0(\delta) = \tilde{M}(0, \delta) = - \oint_{\tilde{L}_0} f(x, \delta) y dx = - \sum_{j=0}^{12} a_j I_{2j},$$

$$c_{41}(\delta) = \oint_{L_0} (p_x + q_y - \sigma_0 - \sigma_1 x - \sigma_3 x^2) dt = - \oint_{L_0} (f(x, \delta) - a_0 - a_1 x - a_2 x^2) dt$$

$$\begin{aligned}
&= - \oint_{L_0} \frac{(f(x, \delta) - a_0 - a_1x - a_2x^2)}{y} dx = -2 \int_0^1 \frac{(f(x, \delta) - a_0 - a_1x - a_2x^2)}{y} dx \\
&= -2 \int_0^1 \frac{1}{y} \left(\sum_{j=3}^{12} a_j x^j \right) dx = -\sqrt{2} \int_0^1 \sum_{j=3}^{12} a_j \frac{x^{j-3}}{\sqrt{1-x^2}} dx \\
&= -\sqrt{2} \sum_{j=3}^{12} a_j \int_0^1 f_j(x) dx,
\end{aligned}$$

$$\begin{aligned}
\tilde{c}_{41}(\delta) &= \oint_{\tilde{L}_0} (p_x + q_y - \sigma_0 - \sigma_1x - \sigma_3x^2) dt = - \oint_{\tilde{L}_0} (f(x, \delta) - a_0 - a_1x - a_2x^2) dt \\
&= - \oint_{\tilde{L}_0} \frac{(f(x, \delta) - a_0 - a_1x - a_2x^2)}{y} dx = -2 \int_{-1}^0 \frac{(f(x, \delta) - a_0 - a_1x - a_2x^2)}{y} dx \\
&= -2 \int_{-1}^0 \frac{1}{y} \left(\sum_{j=3}^{12} a_j x^j \right) dx = -\sqrt{2} \int_{-1}^0 \sum_{j=3}^{12} a_j \frac{x^{j-3}}{\sqrt{1-x^2}} dx \\
&= -\sqrt{2} \sum_{j=3}^{12} a_j \int_{-1}^0 f_j(x) dx
\end{aligned}$$

where

$$\begin{aligned}
I_{1j} &= \oint_{L_0} x^j y dx = 2 \int_0^1 x^j y dx = 2\sqrt{2} \int_0^1 x^{j+3} \sqrt{1-x^2} dx, \quad j = 0, 1, \dots, 12, \\
I_{2j} &= \oint_{L_3} x^j y dx = 2 \int_{-1}^0 x^j y dx = 2\sqrt{2} \int_{-1}^0 x^{j+3} \sqrt{1-x^2} dx, \quad j = 0, 1, \dots, 12, \\
f_j(x) &= \frac{x^{j-3}}{\sqrt{1-x^2}}, \quad j = 3, \dots, 12.
\end{aligned}$$

Computing them by Maple 17, we obtain

$$\begin{aligned}
c_0(\delta) &= -2\sqrt{2} \left[\frac{2048}{109395} a_{12} + \frac{429}{65536} a_{11} \pi + \frac{1024}{45045} a_{10} + \frac{33}{4096} a_9 \pi + \frac{256}{9009} a_8 + \frac{2}{15} a_0 \right. \\
&\quad \left. + \frac{21}{2048} a_7 \pi + \frac{128}{3465} a_6 + \frac{7}{512} a_5 \pi + \frac{16}{315} a_4 + \frac{5}{256} a_3 \pi + \frac{8}{105} a_2 + \frac{1}{32} a_1 \pi \right], \\
\tilde{c}_0(\delta) &= -2\sqrt{2} \left[-\frac{2048}{109395} a_{12} + \frac{429}{65536} a_{11} \pi - \frac{1024}{45045} a_{10} + \frac{33}{4096} a_9 \pi - \frac{256}{9009} a_8 - \frac{2}{15} a_0 \right. \\
&\quad \left. + \frac{21}{2048} a_7 \pi - \frac{128}{3465} a_6 + \frac{7}{512} a_5 \pi - \frac{16}{315} a_4 + \frac{5}{256} a_3 \pi - \frac{8}{105} a_2 + \frac{1}{32} a_1 \pi \right], \\
c_{41}(\delta) &= -\sqrt{2} \left[\frac{128}{315} a_{12} + \frac{35}{256} a_{11} \pi + \frac{16}{35} a_{10} + \frac{5}{32} a_9 \pi + \frac{8}{15} a_8 + \frac{3}{16} a_7 \pi + \frac{2}{3} a_6 \right. \\
&\quad \left. + \frac{1}{4} a_5 \pi + a_4 + \frac{1}{2} a_3 \pi \right], \\
\tilde{c}_{41}(\delta) &= -\sqrt{2} \left[-\frac{128}{315} a_{12} + \frac{35}{256} a_{11} \pi - \frac{16}{35} a_{10} + \frac{5}{32} a_9 \pi - \frac{8}{15} a_8 + \frac{3}{16} a_7 \pi - \frac{2}{3} a_6 \right.
\end{aligned}$$

$$+\frac{1}{4}a_5\pi - a_4 + \frac{1}{2}a_3\pi \Big].$$

Then by Theorem 2.1 and the Appendix, it follows that

$$\begin{aligned} c_1(\delta) &= -2\sqrt{2}\tilde{A}_0a_0, \quad c_2(\delta) = -2\sqrt{2}\tilde{A}_1a_1, \quad c_3(\delta) = \frac{\sqrt{2}}{12}(a_0 + 2a_2), \\ c_5(\delta) &= -\frac{2\sqrt{2}}{3}\tilde{A}_3(2a_1 + 3a_3), \quad c_6(\delta) = -\sqrt{2}\tilde{A}_4(\frac{55}{36}a_0 + \frac{5}{3}a_2 + 2a_4), \\ c_7(\delta) &= -\frac{\sqrt{2}}{10}\tilde{A}_0(\frac{1729}{648}a_0 + \frac{91}{36}a_2 + \frac{7}{3}a_4 + 2a_6), \\ c_8(\delta) &= -\frac{4\sqrt{2}}{11}\tilde{A}_1(\frac{140}{81}a_1 + \frac{14}{9}a_3 + \frac{4}{3}a_5 + a_7), \\ c_9(\delta) &= -\frac{\sqrt{2}}{48}(\frac{315}{64}a_0 + \frac{35}{8}a_2 + \frac{15}{4}a_4 + 3a_6 + 2a_8). \end{aligned}$$

(1) Suppose that $a_{12} \neq 0$. By $\tilde{c}_0(\delta) = c_{41}(\delta) = \tilde{c}_{41}(\delta) = c_0(\delta) = c_1(\delta) = c_2(\delta) = c_3(\delta) = c_5(\delta) = c_6(\delta) = c_7(\delta) = c_8(\delta) = 0$, we can obtain

$$a_i = 0, \quad i = 0, 1, 2, 3, 4, 6, 9, 11, \quad a_5 = -\frac{3}{4}a_7,$$

$$a_8 = \frac{21702051851422978291}{27670116110564327424}a_{12}, \quad a_{10} = -\frac{99829438516545753655}{55340232221128654848}a_{12},$$

and $c_9 = -\frac{\sqrt{2}a_8}{24} = -\frac{\sqrt{2}}{24} * \frac{21702051851422978291}{27670116110564327424}a_{12} \neq 0$. Furthermore,

$$\text{rank} \frac{\partial(\tilde{c}_0, c_{41}, \tilde{c}_{41}, c_0, c_1, c_2, c_3, c_5, c_6, c_7, c_8)}{\partial(a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10}, a_{11}, a_{12})} = 11.$$

Thus, by Theorem 2.2, we obtain 16 limit cycles for system (3.1) near L_0^* for some $(\epsilon, a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10}, a_{11}, a_{12})$ near

$$(0, 0, 0, 0, 0, 0, -\frac{3}{4}a_7, 0, a_7, \frac{21702051851422978291}{27670116110564327424}a_{12}, 0, -\frac{99829438516545753655}{55340232221128654848}a_{12}, 0, a_{12}).$$

(2) Assume that $a_{12} = 0$, $a_{11} \neq 0$. The equations $\tilde{c}_0(\delta) = c_{41}(\delta) = \tilde{c}_{41}(\delta) = c_0(\delta) = c_1(\delta) = c_2(\delta) = c_3(\delta) = c_5(\delta) = c_6(\delta) = c_7(\delta) = 0$ have solution

$$a_i = 0, \quad i = 0, 1, 2, 3, 4, 6, 8, 10, \quad a_5 = \frac{165}{256}a_{11} - \frac{3}{4}a_7, \quad a_9 = -\frac{61}{32}a_{11}.$$

And $c_8 = -\frac{55\sqrt{2}}{176}\tilde{A}_1a_{11} \neq 0$,

$$\text{rank} \frac{\partial(\tilde{c}_0, c_{41}, \tilde{c}_{41}, c_0, c_1, c_2, c_3, c_5, c_6, c_7)}{\partial(a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10}, a_{11})} = 10.$$

This implies that there can have 14 limit cycles for system (3.1) near L_0^* for some $(\epsilon, a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10}, a_{11})$ near

$$(0, 0, 0, 0, 0, 0, \frac{165}{256}a_{11} - \frac{3}{4}a_7, 0, a_7, 0, -\frac{61}{32}a_{11}, 0, a_{11}).$$

(3) Let $a_{12} = a_{11} = 0$, $a_{10} \neq 0$. By equations $\tilde{c}_0(\delta) = c_{41}(\delta) = \tilde{c}_{41}(\delta) = c_0(\delta) = c_1(\delta) = c_2(\delta) = c_3(\delta) = c_5(\delta) = c_6(\delta) = 0$, we have

$$a_0 = a_1 = a_2 = a_3 = a_4 = a_9 = 0, \quad a_5 = -\frac{3}{4}a_7, \quad a_6 = \frac{8}{7}a_{10}, \quad a_8 = -\frac{16}{7}a_{10},$$

and $c_7 = -\frac{8\sqrt{2}}{35}\tilde{A}_0a_{10} \neq 0$. Furthermore, we can verify that

$$\text{rank} \frac{\partial(\tilde{c}_0, c_{41}, \tilde{c}_{41}, c_0, c_1, c_2, c_3, c_5, c_6)}{\partial(a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10})} = 9.$$

Thus, by Theorem 2.1 we can prove that system (3.1) has 13 limit cycles near L_0^* for some $(\epsilon, a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10})$ near

$$(0, 0, 0, 0, 0, 0, -\frac{3}{4}a_7, \frac{8}{7}a_{10}, a_7, -\frac{16}{7}a_{10}, 0, a_{10}).$$

The proof is completed. \square

4 Appendix

In this appendix, we give the expressions of \tilde{r}_{ij} and $r_{ij}^{(1)}$, $i, j \geq 0$ by running the calculating programs in [14] through using Maple-17. Formulas of $\bar{a}_{i,1}$, $\bar{b}_{i,0}$, $\alpha_{i,0}$, $i = 0, 1, \dots, 5$, h_j , $j = 3, 4, \dots, 9$ and $\bar{a}_{0,2}$, $\bar{a}_{1,2}$, $\bar{a}_{0,3}$, $\bar{a}_{1,3}$, $\bar{b}_{0,1}$, $\bar{b}_{1,1}$, $\bar{b}_{0,2}$, $\bar{b}_{1,2}$, $\alpha_{0,1}$, $\alpha_{1,1}$ are the same as these in [11].

$$\begin{aligned} \tilde{r}_{00} &= \alpha_{0,0}\bar{n}_0 \\ \tilde{r}_{10} &= \alpha_{0,0}\bar{\mu}_1\bar{n}_1 + \alpha_{1,0}\bar{\mu}_1\bar{n}_0 \\ \tilde{r}_{20} &= \alpha_{0,0}\bar{\mu}_1^2\bar{n}_2 + \alpha_{1,0}\bar{\mu}_1^2\bar{n}_1 + \alpha_{2,0}\bar{\mu}_1^2\bar{n}_0 + \alpha_{0,0}\bar{\mu}_2\bar{n}_1 + \alpha_{1,0}\bar{\mu}_2\bar{n}_0 \\ \tilde{r}_{30} &= (\bar{\mu}_1^3\bar{n}_3 + 2\bar{\mu}_1\bar{\mu}_2\bar{n}_2 + \bar{\mu}_3\bar{n}_1)\alpha_{0,0} + (\bar{\mu}_1^3\bar{n}_2 + 2\bar{\mu}_1\bar{\mu}_2\bar{n}_1 + \bar{\mu}_3\bar{n}_0)\alpha_{1,0} \\ &\quad + (\bar{\mu}_1^3\bar{n}_1 + 2\bar{\mu}_1\bar{\mu}_2\bar{n}_0)\alpha_{2,0} + \bar{\mu}_1^3\bar{n}_0\alpha_{3,0} \\ \tilde{r}_{i0} &= \sum_{l=0}^{(i)} m_{i0}^{(l)}\alpha_{l,0}, \quad i = 4, 6, 7, 8 \\ \tilde{r}_{01} &= \bar{n}_0\alpha_{0,1} \\ \tilde{r}_{11} &= \bar{\mu}_1\bar{n}_1\alpha_{0,1} + \bar{\mu}_1\bar{n}_0\alpha_{1,1} \\ \tilde{r}_{21} &= (\bar{\mu}_1^2\bar{n}_2 + \bar{\mu}_2\bar{n}_1)\alpha_{0,1} + (\bar{\mu}_1^2\bar{n}_1 + \bar{\mu}_2\bar{n}_0)\alpha_{1,1} + \bar{\mu}_1^2\bar{n}_0\alpha_{2,1} \end{aligned}$$

and

$$\begin{aligned} r_{01}^{(1)} &= 2\bar{n}_0\gamma_{0,1}, \\ r_{11}^{(1)} &= (2\bar{\mu}_1^2\bar{n}_2 + 2\bar{\mu}_2\bar{n}_1)\gamma_{0,1} + (2\bar{\mu}_1^2\bar{n}_1 + 2\bar{\mu}_2\bar{n}_0)\gamma_{1,1} + 2\bar{\mu}_1^2\bar{n}_0\gamma_{2,1}, \end{aligned}$$

$$\begin{aligned}
r_{i1}^{(1)} &= \sum_{l=0}^{2i} \tilde{m}_{i1}^{(l)} \gamma_{l,1}, \quad i = 2, 3, 4, \\
r_{03}^{(1)} &= 2 \bar{n}_0 \gamma_{0,3} \\
r_{13}^{(1)} &= (2 \bar{\mu}_1^2 \bar{n}_2 + 2 \bar{\mu}_2 \bar{n}_1) \gamma_{0,3} + (2 \bar{\mu}_1^2 \bar{n}_1 + 2 \bar{\mu}_2 \bar{n}_0) \gamma_{1,3} + 2 \bar{\mu}_1^2 \bar{n}_0 \gamma_{2,3}
\end{aligned}$$

where

$$\begin{aligned}
m_{40}^{(0)} &= \bar{\mu}_1^4 \bar{n}_4 + \bar{\mu}_4 \bar{n}_1 + 2 \bar{\mu}_1 \bar{\mu}_3 \bar{n}_2 + 3 \bar{\mu}_1^2 \bar{\mu}_2 \bar{n}_3 + \bar{\mu}_2^2 \bar{n}_2 \\
m_{40}^{(1)} &= \bar{\mu}_1^4 \bar{n}_3 + 3 \bar{\mu}_1^2 \bar{\mu}_2 \bar{n}_2 + 2 \bar{\mu}_1 \bar{\mu}_3 \bar{n}_1 + \bar{\mu}_2^2 \bar{n}_1 + \bar{\mu}_4 \bar{n}_0 \\
m_{40}^{(2)} &= \bar{\mu}_1^4 \bar{n}_2 + 3 \bar{\mu}_1^2 \bar{\mu}_2 \bar{n}_1 + 2 \bar{\mu}_1 \bar{\mu}_3 \bar{n}_0 + \bar{\mu}_2^2 \bar{n}_0 \\
m_{40}^{(3)} &= \bar{\mu}_1^4 \bar{n}_1 + 3 \bar{\mu}_1^2 \bar{\mu}_2 \bar{n}_0 \\
m_{40}^{(4)} &= \bar{\mu}_1^4 \bar{n}_0 \\
m_{60}^{(0)} &= 4 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_4 + 6 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_4 + 2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_2 + 5 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_5 + 2 \bar{\mu}_1 \bar{\mu}_5 \bar{n}_2 + 3 \bar{\mu}_1^2 \bar{\mu}_4 \bar{n}_3 + \bar{\mu}_2^3 \bar{n}_3 \\
&\quad + \bar{\mu}_3^2 \bar{n}_2 + \bar{\mu}_6 \bar{n}_1 + \bar{\mu}_1^6 \bar{n}_6 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_3 \\
m_{60}^{(1)} &= 2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_1 + 2 \bar{\mu}_1 \bar{\mu}_5 \bar{n}_1 + 5 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_4 + 4 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_3 + 6 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_3 + 3 \bar{\mu}_1^2 \bar{\mu}_4 \bar{n}_2 + \bar{\mu}_1^6 \bar{n}_5 \\
&\quad + \bar{\mu}_2^3 \bar{n}_2 + \bar{\mu}_3^2 \bar{n}_1 + \bar{\mu}_6 \bar{n}_0 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_2 \\
m_{60}^{(2)} &= 5 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_3 + 2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_0 + 2 \bar{\mu}_1 \bar{\mu}_5 \bar{n}_0 + 6 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_2 + 4 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_2 + 3 \bar{\mu}_1^2 \bar{\mu}_4 \bar{n}_1 + \bar{\mu}_3^2 \bar{n}_0 \\
&\quad + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_1 + \bar{\mu}_1^6 \bar{n}_4 + \bar{\mu}_2^3 \bar{n}_1 \\
m_{60}^{(3)} &= 4 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_1 + 5 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_2 + 6 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_1 + 3 \bar{\mu}_1^2 \bar{\mu}_4 \bar{n}_0 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_0 + \bar{\mu}_1^6 \bar{n}_3 + \bar{\mu}_2^3 \bar{n}_0 \\
m_{60}^{(4)} &= 5 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_1 + 4 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_0 + 6 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_0 + \bar{\mu}_1^6 \bar{n}_2 \\
m_{60}^{(5)} &= 5 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_0 + \bar{\mu}_1^6 \bar{n}_1 \\
m_{60}^{(6)} &= \bar{\mu}_1^6 \bar{n}_0 \\
m_{70}^{(0)} &= 2 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_2 + 2 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_2 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_3 + 3 \bar{\mu}_1^2 \bar{\mu}_5 \bar{n}_3 + 4 \bar{\mu}_1 \bar{\mu}_2^3 \bar{n}_4 + 4 \bar{\mu}_1^3 \bar{\mu}_4 \bar{n}_4 \\
&\quad + 5 \bar{\mu}_1^4 \bar{\mu}_3 \bar{n}_5 + 10 \bar{\mu}_1^3 \bar{\mu}_2^2 \bar{n}_5 + 2 \bar{\mu}_1 \bar{\mu}_6 \bar{n}_2 + 3 \bar{\mu}_1 \bar{\mu}_3^2 \bar{n}_3 + 3 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_3 + 6 \bar{\mu}_1^5 \bar{\mu}_2 \bar{n}_6 \\
&\quad + \alpha_{0,0} \bar{\mu}_1^7 \bar{n}_7 + \bar{\mu}_7 \bar{n}_1 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_4 \\
m_{70}^{(1)} &= 2 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_1 + 6 \bar{\mu}_1^5 \bar{\mu}_2 \bar{n}_5 + 5 \bar{\mu}_1^4 \bar{\mu}_3 \bar{n}_4 + 2 \bar{\mu}_1 \bar{\mu}_6 \bar{n}_1 + 10 \bar{\mu}_1^3 \bar{\mu}_2^2 \bar{n}_4 + 2 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_1 \\
&\quad + 4 \bar{\mu}_1 \bar{\mu}_2^3 \bar{n}_3 + 4 \bar{\mu}_1^3 \bar{\mu}_4 \bar{n}_3 + 3 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_2 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_2 + 3 \bar{\mu}_1 \bar{\mu}_3^2 \bar{n}_2 + 3 \bar{\mu}_1^2 \bar{\mu}_5 \bar{n}_2 \\
&\quad + \bar{\mu}_1^7 \bar{n}_6 + \bar{\mu}_7 \bar{n}_0 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_3 \\
m_{70}^{(2)} &= 4 \bar{\mu}_1^3 \bar{\mu}_4 \bar{n}_2 + 2 \bar{\mu}_1 \bar{\mu}_6 \bar{n}_0 + 10 \bar{\mu}_1^3 \bar{\mu}_2^2 \bar{n}_3 + 5 \bar{\mu}_1^4 \bar{\mu}_3 \bar{n}_3 + 4 \bar{\mu}_1 \bar{\mu}_2^3 \bar{n}_2 + 2 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_0 \\
&\quad + 3 \bar{\mu}_1 \bar{\mu}_3^2 \bar{n}_1 + 3 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_1 + 2 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_0 + 6 \bar{\mu}_1^5 \bar{\mu}_2 \bar{n}_4 + \bar{\mu}_1^7 \bar{n}_5 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_1 \\
&\quad + 3 \bar{\mu}_1^2 \bar{\mu}_5 \bar{n}_1 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_2 \\
m_{70}^{(3)} &= 4 \bar{\mu}_1^3 \bar{\mu}_4 \bar{n}_1 + 5 \bar{\mu}_1^4 \bar{\mu}_3 \bar{n}_2 + 10 \bar{\mu}_1^3 \bar{\mu}_2^2 \bar{n}_2 + 3 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_0 + 3 \bar{\mu}_1^2 \bar{\mu}_5 \bar{n}_0 + 3 \bar{\mu}_1 \bar{\mu}_3^2 \bar{n}_0 \\
&\quad + 4 \bar{\mu}_1 \bar{\mu}_2^3 \bar{n}_1 + 6 \bar{\mu}_1^5 \bar{\mu}_2 \bar{n}_3 + \bar{\mu}_1^7 \bar{n}_4 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_1 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_0
\end{aligned}$$

$$\begin{aligned}
m_{70}^{(4)} &= 4 \bar{\mu}_1^3 \bar{\mu}_4 \bar{n}_0 + 5 \bar{\mu}_1^4 \bar{\mu}_3 \bar{n}_1 + 4 \bar{\mu}_1 \bar{\mu}_2^3 \bar{n}_0 + 10 \bar{\mu}_1^3 \bar{\mu}_2^2 \bar{n}_1 + 6 \bar{\mu}_1^5 \bar{\mu}_2 \bar{n}_2 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_0 \\
&\quad + \bar{\mu}_1^7 \bar{n}_3 \\
m_{70}^{(5)} &= 6 \bar{\mu}_1^5 \bar{\mu}_2 \bar{n}_1 + 10 \bar{\mu}_1^3 \bar{\mu}_2^2 \bar{n}_0 + \bar{\mu}_1^7 \bar{n}_2 + 5 \bar{\mu}_1^4 \bar{\mu}_3 \bar{n}_0 \\
m_{70}^{(6)} &= 6 \bar{\mu}_1^5 \bar{\mu}_2 \bar{n}_0 + \bar{\mu}_1^7 \bar{n}_1 \\
m_{70}^{(7)} &= \bar{\mu}_1^7 \bar{n}_0 \\
m_{80}^{(0)} &= 2 \bar{\mu}_2 \bar{\mu}_6 \bar{n}_2 + 2 \bar{\mu}_1 \bar{\mu}_7 \bar{n}_2 + 6 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_6 + 4 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_4 + 15 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_6 + 3 \bar{\mu}_1^2 \bar{\mu}_6 \bar{n}_3 \\
&\quad + 2 \bar{\mu}_3 \bar{\mu}_5 \bar{n}_2 + 7 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_7 + 10 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_5 + 5 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_5 + 3 \bar{\mu}_2^2 \bar{\mu}_4 \bar{n}_3 + 3 \bar{\mu}_2 \bar{\mu}_3^2 \bar{n}_3 \\
&\quad + \bar{\mu}_8 \bar{n}_1 + \bar{\mu}_2^4 \bar{n}_4 + \bar{\mu}_4^2 \bar{n}_2 + \bar{\mu}_1^8 \bar{n}_8 + 6 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_4 + 12 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_4 \\
&\quad + 6 \bar{\mu}_1 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_3 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_3 + 20 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_5 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_4 \\
m_{80}^{(1)} &= 15 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_5 + 6 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_3 + 7 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_6 + 10 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_4 + 3 \bar{\mu}_1^2 \bar{\mu}_6 \bar{n}_2 + 5 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_4 \\
&\quad + 3 \bar{\mu}_2 \bar{\mu}_3^2 \bar{n}_2 + 2 \bar{\mu}_2 \bar{\mu}_6 \bar{n}_1 + 2 \bar{\mu}_1 \bar{\mu}_7 \bar{n}_1 + 3 \bar{\mu}_2^2 \bar{\mu}_4 \bar{n}_2 + 2 \bar{\mu}_3 \bar{\mu}_5 \bar{n}_1 + \bar{\mu}_8 \bar{n}_0 \\
&\quad + \bar{\mu}_2^4 \bar{n}_3 + \bar{\mu}_4^2 \bar{n}_1 + \bar{\mu}_1^8 \bar{n}_7 + 4 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_3 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_2 + 6 \bar{\mu}_1 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_2 \\
&\quad + 20 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_4 + 12 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_3 + 6 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_5 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_3 \\
m_{80}^{(2)} &= 2 \bar{\mu}_3 \bar{\mu}_5 \bar{n}_0 + 6 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_2 + 6 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_4 + 15 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_4 + 2 \bar{\mu}_2 \bar{\mu}_6 \bar{n}_0 + 3 \bar{\mu}_2 \bar{\mu}_3^2 \bar{n}_1 \\
&\quad + 3 \bar{\mu}_1^2 \bar{\mu}_6 \bar{n}_1 + 3 \bar{\mu}_2^2 \bar{\mu}_4 \bar{n}_1 + 7 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_5 + 5 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_3 + 10 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_3 + 4 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_2 \\
&\quad + 2 \bar{\mu}_1 \bar{\mu}_7 \bar{n}_0 + \bar{\mu}_4^2 \bar{n}_0 + \bar{\mu}_1^8 \bar{n}_6 + \bar{\mu}_2^4 \bar{n}_2 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_1 + 6 \bar{\mu}_1 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_1 \\
&\quad + 20 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_3 + 12 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_2 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_2 \\
m_{80}^{(3)} &= 6 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_1 + 4 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_1 + 15 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_3 + 6 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_3 + 5 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_2 + 3 \bar{\mu}_2 \bar{\mu}_3^2 \bar{n}_0 \\
&\quad + 7 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_4 + 3 \bar{\mu}_2^2 \bar{\mu}_4 \bar{n}_0 + 10 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_2 + 3 \bar{\mu}_1^2 \bar{\mu}_6 \bar{n}_0 + \bar{\mu}_1^8 \bar{n}_5 + 6 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_0 \\
&\quad + \bar{\mu}_2^4 \bar{n}_1 + 20 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_2 + 12 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_1 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_1 + 6 \bar{\mu}_1 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_0 \\
m_{80}^{(4)} &= 7 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_3 + 6 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_2 + 15 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_2 + 10 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_1 + 5 \alpha_{4,0} \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_1 + 4 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_0 \\
&\quad + 6 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_0 + \bar{\mu}_1^8 \bar{n}_4 + \bar{\mu}_2^4 \bar{n}_0 + 20 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_1 + 12 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_0 + 12 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_0 \\
m_{80}^{(5)} &= 10 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_0 + 15 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_1 + 5 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_0 + 6 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_1 + 7 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_2 + 20 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_0 \\
&\quad + \bar{\mu}_1^8 \bar{n}_3 \\
m_{80}^{(6)} &= 15 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_0 + 6 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_0 + 7 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_1 + \bar{\mu}_1^8 \bar{n}_2 \\
m_{80}^{(7)} &= 7 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_0 + \bar{\mu}_1^8 \bar{n}_1 \\
m_{80}^{(8)} &= \bar{\mu}_1^8 \bar{n}_0
\end{aligned}$$

and

$$\begin{aligned}
\tilde{m}_{21}^{(0)} &= 4 \bar{\mu}_1 \bar{\mu}_3 \bar{n}_2 + 6 \bar{\mu}_1^2 \bar{\mu}_2 \bar{n}_3 + 2 \bar{\mu}_2^2 \bar{n}_2 + 2 \bar{\mu}_4 \bar{n}_1 + 2 \bar{\mu}_1^4 \bar{n}_4 \\
\tilde{m}_{21}^{(1)} &= 2 \bar{\mu}_1^4 \bar{n}_3 + 6 \bar{\mu}_1^2 \bar{\mu}_2 \bar{n}_2 + 4 \bar{\mu}_1 \bar{\mu}_3 \bar{n}_1 + 2 \bar{\mu}_2^2 \bar{n}_1 + 2 \bar{\mu}_4 \bar{n}_0 \\
\tilde{m}_{21}^{(2)} &= 6 \bar{\mu}_1^2 \bar{\mu}_2 \bar{n}_1 + 2 \bar{\mu}_1^4 \bar{n}_2 + 4 \bar{\mu}_1 \bar{\mu}_3 \bar{n}_0 + 2 \bar{\mu}_2^2 \bar{n}_0
\end{aligned}$$

$$\begin{aligned}
\tilde{m}_{21}^{(3)} &= 6 \bar{\mu}_1^2 \bar{\mu}_2 \bar{n}_0 + 2 \bar{\mu}_1^4 \bar{n}_1 \\
\tilde{m}_{21}^{(4)} &= 2 \bar{\mu}_1^4 \bar{n}_0 \\
\tilde{m}_{31}^{(0)} &= 4 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_2 + 4 \bar{\mu}_1 \bar{\mu}_5 \bar{n}_2 + 10 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_5 + 8 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_4 + 12 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_4 + 2 \bar{\mu}_6 \bar{n}_1 + 2 \bar{\mu}_3^2 \bar{n}_2 \\
&\quad + 6 \bar{\mu}_1^2 \bar{\mu}_4 \bar{n}_3 + 2 \bar{\mu}_2^3 \bar{n}_3 + 12 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_3 + 2 \bar{\mu}_1^6 \bar{n}_6 \\
\tilde{m}_{31}^{(1)} &= 10 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_4 + 4 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_1 + 4 \bar{\mu}_1 \bar{\mu}_5 \bar{n}_1 + 12 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_3 + 8 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_3 + 6 \bar{\mu}_1^2 \bar{\mu}_4 \bar{n}_2 \\
&\quad + 12 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_2 + 2 \bar{\mu}_1^6 \bar{n}_5 + 2 \bar{\mu}_6 \bar{n}_0 + 2 \bar{\mu}_2^3 \bar{n}_2 + 2 \bar{\mu}_3^2 \bar{n}_1 \\
\tilde{m}_{31}^{(2)} &= 8 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_2 + 4 \bar{\mu}_1 \bar{\mu}_5 \bar{n}_0 + 12 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_2 + 2 \bar{\mu}_1^6 \bar{n}_4 + 6 \bar{\mu}_1^2 \bar{\mu}_4 \bar{n}_1 + 2 \bar{\mu}_2^3 \bar{n}_1 + 2 \bar{\mu}_3^2 \bar{n}_0 \\
&\quad + 4 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_0 + 10 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_3 + 12 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_1 \\
\tilde{m}_{31}^{(3)} &= 6 \bar{\mu}_1^2 \bar{\mu}_4 \bar{n}_0 + 12 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_0 + 8 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_1 + 12 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_1 + 10 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_2 + 2 \bar{\mu}_1^6 \bar{n}_3 \\
&\quad + 2 \bar{\mu}_2^3 \bar{n}_0 \\
\tilde{m}_{31}^{(4)} &= 10 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_1 + 8 \bar{\mu}_1^3 \bar{\mu}_3 \bar{n}_0 + 12 \bar{\mu}_1^2 \bar{\mu}_2^2 \bar{n}_0 + 2 \bar{\mu}_1^6 \bar{n}_2 \\
\tilde{m}_{31}^{(5)} &= 2 \bar{\mu}_1^6 \bar{n}_1 + 10 \bar{\mu}_1^4 \bar{\mu}_2 \bar{n}_0 \\
\tilde{m}_{31}^{(6)} &= 2 \bar{\mu}_1^6 \bar{n}_0 \\
\tilde{m}_{41}^{(0)} &= 2 \bar{\mu}_1^8 \bar{n}_8 + 4 \bar{\mu}_1 \bar{\mu}_7 \bar{n}_2 + 6 \bar{\mu}_2 \bar{\mu}_3^2 \bar{n}_3 + 14 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_7 + 12 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_6 + 12 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_4 + 2 \bar{\mu}_2^4 \bar{n}_4 \\
&\quad + 30 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_6 + 8 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_4 + 6 \bar{\mu}_2^2 \bar{\mu}_4 \bar{n}_3 + 6 \bar{\mu}_1^2 \bar{\mu}_6 \bar{n}_3 + 10 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_5 + 2 \bar{\mu}_4^2 \bar{n}_2 + 2 \bar{\mu}_8 \bar{n}_1 \\
&\quad + 24 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_4 + 12 \bar{\mu}_1 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_3 + 24 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_4 + 40 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_5 + 12 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_3 \\
&\quad + 4 \bar{\mu}_2 \bar{\mu}_6 \bar{n}_2 + 4 \bar{\mu}_3 \bar{\mu}_5 \bar{n}_2 + 20 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_5 \\
\tilde{m}_{41}^{(1)} &= 4 \bar{\mu}_2 \bar{\mu}_6 \bar{n}_1 + 2 \bar{\mu}_1^8 \bar{n}_7 + 12 \bar{\mu}_1 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_2 + 24 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_3 + 4 \bar{\mu}_3 \bar{\mu}_5 \bar{n}_1 + 12 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_2 \\
&\quad + 40 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_4 + 24 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_3 + 6 \bar{\mu}_2 \bar{\mu}_3^2 \bar{n}_2 + 4 \bar{\mu}_1 \bar{\mu}_7 \bar{n}_1 + 20 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_4 + 14 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_6 \\
&\quad + 12 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_3 + 12 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_5 + 8 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_3 + 2 \bar{\mu}_2^4 \bar{n}_3 + 2 \bar{\mu}_4^2 \bar{n}_1 + 10 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_4 + 2 \bar{\mu}_8 \bar{n}_0 \\
&\quad + 30 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_5 + 6 \bar{\mu}_2^2 \bar{\mu}_4 \bar{n}_2 + 6 \bar{\mu}_1^2 \bar{\mu}_6 \bar{n}_2 \\
\tilde{m}_{41}^{(2)} &= 2 \bar{\mu}_4^2 \bar{n}_0 + 24 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_2 + 40 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_3 + 14 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_5 + 6 \bar{\mu}_1^2 \bar{\mu}_6 \bar{n}_1 + 8 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_2 \\
&\quad + 12 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_4 + 12 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_2 + 30 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_4 + 4 \bar{\mu}_1 \bar{\mu}_7 \bar{n}_0 + 2 \bar{\mu}_2^4 \bar{n}_2 + 10 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_3 \\
&\quad + 2 \bar{\mu}_1^8 \bar{n}_6 + 12 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_1 + 12 \bar{\mu}_1 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_1 + 6 \bar{\mu}_2^2 \bar{\mu}_4 \bar{n}_1 + 20 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_3 + 4 \bar{\mu}_3 \bar{\mu}_5 \bar{n}_0 \\
&\quad + 24 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_2 + 6 \bar{\mu}_2 \bar{\mu}_3^2 \bar{n}_1 + 4 \bar{\mu}_2 \bar{\mu}_6 \bar{n}_0 \\
\tilde{m}_{41}^{(3)} &= +24 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_1 + 12 \bar{\mu}_1 \bar{\mu}_3 \bar{\mu}_4 \bar{n}_0 + 12 \bar{\mu}_1 \bar{\mu}_2 \bar{\mu}_5 \bar{n}_0 + 24 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_1 + 40 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_2 \\
&\quad + 12 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_3 + 20 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_2 + 14 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_4 + 6 \bar{\mu}_1^2 \bar{\mu}_6 \bar{n}_0 + 6 \bar{\mu}_2 \bar{\mu}_3^2 \bar{n}_0 + 8 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_1 \\
&\quad + 30 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_3 + 12 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_1 + 6 \bar{\mu}_2^2 \bar{\mu}_4 \bar{n}_0 + 10 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_2 + 2 \bar{\mu}_1^8 \bar{n}_5 + 2 \bar{\mu}_2^4 \bar{n}_1 \\
\tilde{m}_{41}^{(4)} &= 2 \bar{\mu}_2^4 \bar{n}_0 + 24 \bar{\mu}_1 \bar{\mu}_2^2 \bar{\mu}_3 \bar{n}_0 + 24 \bar{\mu}_1^2 \bar{\mu}_2 \bar{\mu}_4 \bar{n}_0 + 40 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_1 + 14 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_3 + 12 \bar{\mu}_1^2 \bar{\mu}_3^2 \bar{n}_0 \\
&\quad + 30 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_2 + 8 \bar{\mu}_1^3 \bar{\mu}_5 \bar{n}_0 + 10 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_1 + 2 \bar{\mu}_1^8 \bar{n}_4 + 20 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_1 + 12 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_2 \\
\tilde{m}_{41}^{(5)} &= 10 \bar{\mu}_1^4 \bar{\mu}_4 \bar{n}_0 + 30 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_1 + 14 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_2 + 2 \bar{\mu}_1^8 \bar{n}_3 + 20 \bar{\mu}_1^2 \bar{\mu}_2^3 \bar{n}_0 + 12 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_1
\end{aligned}$$

$$\begin{aligned}
& +40 \bar{\mu}_1^3 \bar{\mu}_2 \bar{\mu}_3 \bar{n}_0 \\
\tilde{m}_{41}^{(6)} &= 12 \bar{\mu}_1^5 \bar{\mu}_3 \bar{n}_0 + 30 \bar{\mu}_1^4 \bar{\mu}_2^2 \bar{n}_0 + 14 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_1 + 2 \bar{\mu}_1^8 \bar{n}_2 \\
\tilde{m}_{41}^{(7)} &= 2 \bar{\mu}_1^8 \bar{n}_1 + 14 \bar{\mu}_1^6 \bar{\mu}_2 \bar{n}_0 \\
\tilde{m}_{41}^{(8)} &= 2 \bar{\mu}_1^8 \bar{n}_0
\end{aligned}$$

with

$$\begin{aligned}
\alpha_{6,0} &= 2 \bar{a}_{0,1} \bar{b}_{6,0} + 2 \bar{a}_{1,1} \bar{b}_{5,0} + 2 \bar{a}_{2,1} \bar{b}_{4,0} + 2 \bar{a}_{3,1} \bar{b}_{3,0} + 2 \bar{a}_{4,1} \bar{b}_{2,0} + 2 \bar{a}_{5,1} \bar{b}_{1,0} + 2 \bar{a}_{6,1} \bar{b}_{0,0} \\
\alpha_{7,0} &= 2 \bar{a}_{0,1} \bar{b}_{7,0} + 2 \bar{a}_{1,1} \bar{b}_{6,0} + 2 \bar{a}_{2,1} \bar{b}_{5,0} + 2 \bar{a}_{3,1} \bar{b}_{4,0} + 2 \bar{a}_{4,1} \bar{b}_{3,0} + 2 \bar{a}_{5,1} \bar{b}_{2,0} + 2 \bar{a}_{6,1} \bar{b}_{1,0} \\
&+ 2 \bar{a}_{7,1} \bar{b}_{0,0} \\
\alpha_{8,0} &= 2 \bar{a}_{0,1} \bar{b}_{8,0} + 2 \bar{a}_{1,1} \bar{b}_{7,0} + 2 \bar{a}_{2,1} \bar{b}_{6,0} + 2 \bar{a}_{3,1} \bar{b}_{5,0} + 2 \bar{a}_{4,1} \bar{b}_{4,0} + 2 \bar{a}_{5,1} \bar{b}_{3,0} + 2 \bar{a}_{6,1} \bar{b}_{2,0} \\
&+ 2 \bar{a}_{7,1} \bar{b}_{1,0} + 2 \bar{a}_{8,1} \bar{b}_{0,0} \\
\alpha_{2,1} &= 2 \bar{a}_{0,1}^3 \bar{b}_{2,2} + 6 \bar{a}_{0,1}^2 \bar{a}_{1,1} \bar{b}_{1,2} + 6 \bar{a}_{0,1}^2 \bar{a}_{2,1} \bar{b}_{0,2} + 6 \bar{a}_{0,1} \bar{a}_{1,1}^2 \bar{b}_{0,2} + 4 \bar{a}_{0,1} \bar{a}_{0,2} \bar{b}_{2,1} + 2 \bar{a}_{2,3} \bar{b}_{0,0} \\
&+ 4 \bar{a}_{0,1} \bar{a}_{2,2} \bar{b}_{0,1} + 4 \bar{a}_{0,2} \bar{a}_{1,1} \bar{b}_{1,1} + 4 \bar{a}_{0,2} \bar{a}_{2,1} \bar{b}_{0,1} + 4 \bar{a}_{1,1} \bar{a}_{1,2} \bar{b}_{0,1} + 2 \bar{a}_{0,3} \bar{b}_{2,0} + 2 \bar{a}_{1,3} \bar{b}_{1,0} \\
&+ 4 \bar{a}_{0,1} \bar{a}_{1,2} \bar{b}_{1,1} \\
\gamma_{i,1} &= \frac{1}{2} \alpha_{i,0}, \quad i = 0, \dots, 8, \\
\gamma_{i,3} &= \frac{1}{2} \alpha_{i,1}, \quad i = 0, 1, 2,
\end{aligned}$$

$$\begin{aligned}
\bar{\mu}_1 &= \mu_1^{-1} \\
\bar{\mu}_2 &= -\mu_1^{-3} \mu_2 \\
\bar{\mu}_3 &= -\mu_1^{-5} (\mu_1 \mu_3 - 2 \mu_2^2) \\
\bar{\mu}_4 &= -\mu_1^{-7} (\mu_1^2 \mu_4 - 5 \mu_1 \mu_2 \mu_3 + 5 \mu_2^3) \\
\bar{\mu}_5 &= -\mu_1^{-9} (\mu_1^3 \mu_5 - 6 \mu_1^2 \mu_2 \mu_4 - 3 \mu_1^2 \mu_3^2 + 21 \mu_1 \mu_2^2 \mu_3 - 14 \mu_2^4) \\
\bar{\mu}_6 &= -\mu_1^{-11} (\mu_1^4 \mu_6 - 7 \mu_1^3 \mu_2 \mu_5 - 7 \mu_1^3 \mu_3 \mu_4 + 28 \mu_1^2 \mu_2^2 \mu_4 + 28 \mu_1^2 \mu_2 \mu_3^2 + 42 \mu_2^5 \\
&- 84 \mu_1 \mu_2^3 \mu_3) \\
\bar{\mu}_7 &= -\mu_1^{-13} (\mu_1^5 \mu_7 - 8 \mu_1^4 \mu_2 \mu_6 - 8 \mu_1^4 \mu_3 \mu_5 - 4 \mu_1^4 \mu_4^2 + 36 \mu_1^3 \mu_2^2 \mu_5 + 12 \mu_1^3 \mu_3^3 \\
&+ 72 \mu_1^3 \mu_2 \mu_3 \mu_4 - 120 \mu_1^2 \mu_2^3 \mu_4 - 180 \mu_1^2 \mu_2^2 \mu_3^2 + 330 \mu_1 \mu_2^4 \mu_3 - 132 \mu_2^6) \\
\bar{\mu}_8 &= -\mu_1^{-15} (\mu_1^6 \mu_8 - 9 \mu_1^5 \mu_2 \mu_7 - 9 \mu_1^5 \mu_3 \mu_6 - 9 \mu_1^5 \mu_4 \mu_5 + 45 \mu_1^4 \mu_2^2 \mu_6 + 429 \mu_2^7 \\
&+ 90 \mu_1^4 \mu_2 \mu_3 \mu_5 + 45 \mu_1^4 \mu_2 \mu_4^2 + 45 \mu_1^4 \mu_3^2 \mu_4 - 165 \mu_1^3 \mu_2^3 \mu_5 - 495 \mu_1^3 \mu_2^2 \mu_3 \mu_4 \\
&- 165 \mu_1^3 \mu_2 \mu_3^3 + 495 \mu_1^2 \mu_2^4 \mu_4 + 990 \mu_1^2 \mu_2^3 \mu_3^2 - 1287 \mu_1 \mu_2^5 \mu_3),
\end{aligned}$$

$$\begin{aligned}
\bar{n}_0 &= \mu_1^{-1} \\
\bar{n}_1 &= -2 \mu_1^{-2} \mu_2
\end{aligned}$$

$$\begin{aligned}
\bar{n}_2 &= -\mu_1^{-3}(3\mu_1\mu_3 - 4\mu_2^2) \\
\bar{n}_3 &= -4\mu_1^{-4}(\mu_1^2\mu_4 - 3\mu_1\mu_2\mu_3 + 2\mu_2^3) \\
\bar{n}_4 &= -\mu_1^{-5}(5\mu_1^3\mu_5 - 16\mu_1^2\mu_2\mu_4 - 9\mu_1^2\mu_3^2 + 36\mu_1\mu_2^2\mu_3 - 16\mu_2^4) \\
\bar{n}_5 &= -2\mu_1^{-6}(3\mu_1^4\mu_6 - 10\mu_1^3\mu_2\mu_5 - 12\mu_1^3\mu_3\mu_4 + 24\mu_1^2\mu_2^2\mu_4 + 27\mu_1^2\mu_2\mu_3^2 \\
&\quad - 48\mu_1\mu_2^3\mu_3 + 16\mu_2^5) \\
\bar{n}_6 &= -\mu_1^{-7}(7\mu_1^5\mu_7 - 24\mu_1^4\mu_2\mu_6 - 30\mu_1^4\mu_3\mu_5 - 16\mu_1^4\mu_4^2 + 60\mu_1^3\mu_2^2\mu_5 \\
&\quad + 144\mu_1^3\mu_2\mu_3\mu_4 + 27\mu_1^3\mu_3^3 - 128\mu_1^2\mu_2^3\mu_4 - 216\mu_1^2\mu_2^2\mu_3^2 + 240\mu_1\mu_2^4\mu_3 - 64\mu_2^6) \\
\bar{n}_7 &= -4\mu_1^{-8}(2\mu_1^6\mu_8 - 7\mu_1^5\mu_2\mu_7 - 9\mu_1^5\mu_3\mu_6 - 10\mu_1^5\mu_4\mu_5 + 18\mu_1^4\mu_2^2\mu_6 \\
&\quad + 45\mu_1^4\mu_2\mu_3\mu_5 + 24\mu_1^4\mu_2\mu_4^2 + 27\mu_1^4\mu_3^2\mu_4 - 40\mu_1^3\mu_2^3\mu_5 - 144\mu_1^3\mu_2^2\mu_3\mu_4 \\
&\quad - 54\mu_1^3\mu_2\mu_3^3 + 80\mu_1^2\mu_2^4\mu_4 + 180\mu_1^2\mu_2^3\mu_3^2 - 144\mu_1\mu_2^5\mu_3 + 32\mu_2^7) \\
\bar{n}_8 &= -\mu_1^{-9}(9\mu_1^7\mu_9 - 32\mu_1^6\mu_2\mu_8 - 42\mu_1^6\mu_3\mu_7 - 48\mu_1^6\mu_4\mu_6 - 25\mu_1^6\mu_5^2 \\
&\quad + 84\mu_1^5\mu_2^2\mu_7 + 216\mu_1^5\mu_2\mu_3\mu_6 + 240\mu_1^5\mu_2\mu_4\mu_5 + 135\mu_1^5\mu_3^2\mu_5 + 144\mu_1^5\mu_3\mu_4^2 \\
&\quad - 192\mu_1^4\mu_2^3\mu_6 - 720\mu_1^4\mu_2^2\mu_3\mu_5 - 384\mu_1^4\mu_2^2\mu_4^2 - 864\mu_1^4\mu_2\mu_3^2\mu_4 - 81\mu_1^4\mu_3^4 \\
&\quad + 400\mu_1^3\mu_2^4\mu_5 + 1920\mu_1^3\mu_2^3\mu_3\mu_4 + 1080\mu_1^3\mu_2^2\mu_3^3 - 768\mu_1^2\mu_2^5\mu_4 - 2160\mu_1^2\mu_2^4\mu_3^2 \\
&\quad + 1344\mu_1\mu_2^6\mu_3 - 256\mu_2^8),
\end{aligned}$$

$$\begin{aligned}
\mu_1 &= (-h_6)^{\frac{1}{6}} \\
\mu_2 &= -\frac{1}{6}(-h_6)^{-\frac{5}{6}}h_7 \\
\mu_3 &= \frac{1}{72}(-h_6)^{-\frac{11}{6}}(12h_6h_8 - 5h_7^2) \\
\mu_4 &= -\frac{1}{1296}(-h_6)^{-\frac{17}{6}}(216h_6^2h_9 - 180h_6h_7h_8 + 55h_7^3) \\
\mu_5 &= \frac{1}{31104}(-h_6)^{-\frac{23}{6}}(5184h_6^3h_{10} - 4320h_6^2h_7h_9 - 2160h_6^2h_8^2 + 3960h_6h_7^2h_8 \\
&\quad - 935h_7^4) \\
\mu_6 &= -\frac{1}{186624}(-h_6)^{-\frac{29}{6}}(31104h_6^4h_{11} - 25920h_6^3h_7h_{10} - 25920h_6^3h_8h_9 + 4301h_7^5 \\
&\quad + 23760h_6^2h_7^2h_9 + 23760h_6^2h_7h_8^2 - 22440h_6h_7^3h_8) \\
\mu_7 &= \frac{1}{6718464}(-h_6)^{-\frac{35}{6}}(1119744h_6^5h_{12} - 933120h_6^4h_7h_{11} - 933120h_6^4h_8h_{10} \\
&\quad + 855360h_6^3h_7^2h_{10} + 1710720h_6^3h_7h_8h_9 + 285120h_6^3h_8^3 - 807840h_6^2h_7^3h_9 \\
&\quad - 466560h_6^2h_9^2 - 1211760h_6^2h_7^2h_8^2 + 774180h_6h_7^4h_8 - 124729h_7^6) \\
\mu_8 &= -\frac{1}{40310784}(-h_6)^{-\frac{41}{6}}(6718464h_6^6h_{13} - 5598720h_6^5h_7h_{12} - 5598720h_6^5h_8h_{11} \\
&\quad - 5598720h_6^5h_9h_{10} + 5132160h_6^4h_7^2h_{11} + 10264320h_6^4h_7h_8h_{10} + 5132160h_6^4h_7h_8^2 \\
&\quad + 5132160h_6^4h_8^2h_9 - 4847040h_6^3h_7^3h_{10} - 14541120h_6^3h_7^2h_8h_9 - 4847040h_6^3h_7h_8^3
\end{aligned}$$

$$\begin{aligned}
& +4645080 h_6^2 h_7^4 h_9 + 9290160 h_6^2 h_7^3 h_8^2 - 4490244 h_6 h_7^5 h_8 + 623645 h_7^7) \\
\mu_9 = & \frac{1}{1934917632} (-h_6)^{-\frac{47}{6}} (322486272 h_{14} h_6^7 - 268738560 h_7 h_{13} h_6^6 \\
& -268738560 h_9 h_{11} h_6^6 - 134369280 h_{10}^2 h_6^6 + 246343680 h_7^2 h_{12} h_6^5 \\
& +492687360 h_7 h_8 h_{11} h_6^5 + 492687360 h_7 h_9 h_{10} h_6^5 + 246343680 h_8^2 h_{10} h_6^5 \\
& +246343680 h_8 h_9^2 h_6^5 - 232657920 h_7^3 h_{11} h_6^4 - 697973760 h_7^2 h_8 h_{10} h_6^4 \\
& -348986880 h_7^2 h_9^2 h_6^4 - 697973760 h_7 h_8^2 h_9 h_6^4 - 58164480 h_8^4 h_6^4 \\
& +222963840 h_7^4 h_{10} h_6^3 + 891855360 h_7^3 h_8 h_9 h_6^3 + 445927680 h_7^2 h_8^3 h_6^3 \\
& -215531712 h_7^5 h_9 h_6^2 - 538829280 h_7^4 h_8^2 h_6^2 + 209544720 h_7^6 h_8 h_6 \\
& -25569445 h_7^8 - 268738560 h_8 h_{12} h_6^6),
\end{aligned}$$

and

$$\begin{aligned}
\bar{b}_{2,1} &= -a_{1,2} h_{2,1} - 3 b_{0,3} h_{2,1} + \frac{3}{2} a_{3,1} + b_{2,2} \\
\bar{b}_{2,2} &= -a_{1,3} h_{2,1} - 4 b_{0,4} h_{2,1} + a_{3,2} + b_{2,3} \\
\bar{b}_{6,0} &= 72 b_{0,2} h_{0,3} h_{1,2} h_{2,1} h_{3,1} + 36 a_{1,1} h_{0,3} h_{1,2} h_{2,1} h_{3,1} - 24 b_{0,3} h_{1,2} h_{2,1} h_{3,1} + a_{1,2} h_{3,1}^2 \\
& -16 b_{1,2} h_{1,2} h_{2,1} h_{2,2} - 8 a_{1,2} h_{1,2} h_{2,1} h_{3,1} - 144 b_{0,2} h_{0,3} h_{1,2}^2 h_{2,1}^2 + 36 b_{0,2} h_{0,3} h_{2,1}^2 h_{2,2} \\
& +36 b_{0,2} h_{1,2} h_{1,3} h_{2,1}^2 - 12 b_{0,2} h_{0,3} h_{2,1} h_{4,1} - 16 b_{0,2} h_{1,2} h_{2,1} h_{3,2} - 16 b_{0,2} h_{1,2} h_{2,2} h_{3,1} \\
& -72 a_{1,1} h_{0,3} h_{1,2}^2 h_{2,1}^2 + 18 a_{1,1} h_{0,3} h_{2,1}^2 h_{2,2} + 24 a_{1,1} h_{1,2}^2 h_{2,1} h_{2,2} + 18 a_{1,1} h_{1,2} h_{1,3} h_{2,1}^2 \\
& -12 b_{1,2} h_{0,3} h_{2,1} h_{3,1} + 48 b_{0,2} h_{1,2}^2 h_{2,1} h_{2,2} - 12 b_{0,2} h_{1,3} h_{2,1} h_{3,1} - 6 a_{1,1} h_{0,3} h_{2,1} h_{4,1} \\
& -8 a_{1,1} h_{1,2} h_{2,1} h_{3,2} - 8 a_{1,1} h_{1,2} h_{2,2} h_{3,1} - 6 a_{1,1} h_{1,3} h_{2,1} h_{3,1} + 36 a_{2,1} h_{0,3} h_{1,2} h_{2,1}^2 \\
& -12 a_{2,1} h_{0,3} h_{2,1} h_{3,1} + 36 b_{1,2} h_{0,3} h_{1,2} h_{2,1}^2 - 5 a_{5,1} h_{2,1} - 4 b_{0,4} h_{2,1}^3 + 6 b_{0,3} h_{2,1} h_{4,1} \\
& -16 a_{2,1} h_{1,2} h_{2,1} h_{2,2} + 7 a_{7,0} + b_{6,1} + 3 b_{0,3} h_{3,1}^2 - 2 b_{1,2} h_{5,1} - 2 b_{3,2} h_{3,1} - 2 b_{2,2} h_{4,1} \\
& -2 b_{0,2} h_{6,1} - 4 a_{4,1} h_{3,1} - a_{1,1} h_{6,1} - 2 a_{2,1} h_{5,1} - 3 a_{3,1} h_{4,1} + 3 b_{2,3} h_{2,1}^2 + 3 a_{3,2} h_{2,1}^2 \\
& -a_{1,3} h_{2,1}^3 - 2 b_{4,2} h_{2,1} + 18 b_{0,3} h_{0,3} h_{2,1}^3 + 36 b_{0,3} h_{1,2}^2 h_{2,1}^2 - 12 b_{0,3} h_{2,1}^2 h_{2,2} \\
& +16 b_{1,2} h_{1,2}^3 h_{2,1} + 4 b_{3,2} h_{1,2} h_{2,1} + 12 a_{1,2} h_{1,2}^2 h_{2,1}^2 - 6 b_{0,2} h_{2,1}^2 h_{2,3} + 8 a_{4,1} h_{1,2} h_{2,1} \\
& -8 b_{1,2} h_{1,2}^2 h_{3,1} - 6 b_{1,2} h_{1,3} h_{2,1}^2 + 4 b_{1,2} h_{1,2} h_{4,1} + 4 b_{1,2} h_{2,1} h_{3,2} + 4 b_{1,2} h_{2,2} h_{3,1} \\
& -6 b_{2,2} h_{0,3} h_{2,1}^2 - 8 b_{2,2} h_{1,2}^2 h_{2,1} + 4 b_{2,2} h_{1,2} h_{3,1} + 4 b_{2,2} h_{2,1} h_{2,2} + 6 a_{1,2} h_{0,3} h_{2,1}^3 \\
& -4 a_{1,2} h_{2,1}^2 h_{2,2} + 2 a_{1,2} h_{2,1} h_{4,1} - 12 b_{1,3} h_{1,2} h_{2,1}^2 + 6 b_{1,3} h_{2,1} h_{3,1} - 36 b_{0,2} h_{0,3} h_{2,1}^3 \\
& -32 b_{0,2} h_{1,2}^4 h_{2,1} + 8 b_{0,2} h_{0,4} h_{2,1}^3 + 16 b_{0,2} h_{1,2}^3 h_{3,1} - 6 b_{0,2} h_{0,3} h_{2,1}^2 - 8 b_{0,2} h_{1,2}^2 h_{4,1} \\
& -8 b_{0,2} h_{2,1} h_{2,2}^2 + 4 b_{0,2} h_{1,2} h_{5,1} + 4 b_{0,2} h_{2,1} h_{4,2} + 4 b_{0,2} h_{2,2} h_{4,1} + 4 b_{0,2} h_{3,1} h_{3,2} \\
& -8 a_{2,2} h_{1,2} h_{2,1}^2 + 4 a_{2,2} h_{2,1} h_{3,1} - 18 a_{1,1} h_{0,3} h_{2,1}^3 - 16 a_{1,1} h_{1,2}^4 h_{2,1} + 4 a_{1,1} h_{0,4} h_{2,1}^3 \\
& +8 a_{1,1} h_{1,2}^3 h_{3,1} - 3 a_{1,1} h_{0,3} h_{2,1}^2 - 4 a_{1,1} h_{1,2}^2 h_{4,1} - 3 a_{1,1} h_{2,1}^2 h_{2,3} - 4 a_{1,1} h_{2,1} h_{2,2}^2 \\
& +2 a_{1,1} h_{2,1} h_{4,2} + 2 a_{1,1} h_{2,2} h_{4,1} + 2 a_{1,1} h_{3,1} h_{3,2} + 16 a_{2,1} h_{1,2}^3 h_{2,1} - 8 a_{2,1} h_{1,2}^2 h_{3,1}
\end{aligned}$$

$$\begin{aligned}
& +4a_{2,1}h_{1,2}h_{4,1} + 4a_{2,1}h_{2,1}h_{3,2} + 4a_{2,1}h_{2,2}h_{3,1} - 9a_{3,1}h_{0,3}h_{2,1}^2 - 12a_{3,1}h_{1,2}^2h_{2,1} \\
& +6a_{3,1}h_{1,2}h_{3,1} + 6a_{3,1}h_{2,1}h_{2,2} - 6a_{2,1}h_{1,3}h_{2,1}^2 + 2a_{1,1}h_{1,2}h_{5,1} \\
\bar{b}_{7,0} = & 72b_{1,2}h_{0,3}h_{1,2}h_{2,1}h_{3,1} + 72a_{2,1}h_{0,3}h_{1,2}h_{2,1}h_{3,1} - 144a_{1,1}h_{0,3}h_{1,2}^2h_{2,1}h_{3,1} \\
& -144a_{1,1}h_{0,3}h_{1,2}h_{2,1}^2h_{2,2} + 36a_{1,1}h_{0,3}h_{1,2}h_{2,1}h_{4,1} + 36a_{1,1}h_{0,3}h_{2,1}h_{2,2}h_{3,1} \\
& +36a_{1,1}h_{1,2}h_{1,3}h_{2,1}h_{3,1} - 288b_{0,2}h_{0,3}h_{1,2}^2h_{2,1}h_{3,1} - 288b_{0,2}h_{0,3}h_{1,2}h_{2,1}^2h_{2,2} \\
& +72b_{0,2}h_{0,3}h_{1,2}h_{2,1}h_{4,1} + 72b_{0,2}h_{0,3}h_{2,1}h_{2,2}h_{3,1} + 72b_{0,2}h_{1,2}h_{1,3}h_{2,1}h_{3,1} \\
& +18a_{1,1}h_{1,2}h_{2,1}^2h_{2,3} + 24a_{1,1}h_{1,2}h_{2,1}h_{2,2}^2 + 18a_{1,1}h_{1,3}h_{2,1}^2h_{2,2} - 8a_{1,1}h_{2,1}h_{2,2}h_{3,2} \\
& -6a_{1,1}h_{0,3}h_{2,1}h_{5,1} - 6a_{1,1}h_{0,3}h_{3,1}h_{4,1} - 8a_{1,1}h_{1,2}h_{2,1}h_{4,2} + 480b_{0,2}h_{0,3}h_{1,2}^3h_{2,1}^2 \\
& -8a_{1,1}h_{1,2}h_{2,2}h_{4,1} - 8a_{1,1}h_{1,2}h_{3,1}h_{3,2} - 6a_{1,1}h_{1,3}h_{2,1}h_{4,1} + 360b_{0,2}h_{0,3}^2h_{1,2}h_{2,1}^3 \\
& -64b_{0,2}h_{0,4}h_{1,2}h_{2,1}^3 - 128b_{0,2}h_{1,2}^3h_{2,1}h_{2,2} - 144b_{0,2}h_{1,2}^2h_{1,3}h_{2,1}^2 - 6a_{1,1}h_{2,1}h_{2,3}h_{3,1} \\
& +36b_{0,2}h_{0,3}h_{1,2}h_{3,1}^2 + 36b_{0,2}h_{0,3}h_{2,1}^2h_{3,2} + 24b_{0,2}h_{0,4}h_{2,1}^2h_{3,1} - 108b_{0,2}h_{0,3}^2h_{2,1}^2h_{3,1} \\
& +48b_{0,2}h_{1,2}^2h_{2,1}h_{3,2} + 48b_{0,2}h_{1,2}^2h_{2,2}h_{3,1} + 36b_{0,2}h_{1,2}h_{2,1}^2h_{2,3} - 72b_{0,2}h_{0,3}h_{1,3}h_{2,1}^3 \\
& +48b_{0,2}h_{1,2}h_{2,1}h_{2,2}^2 + 36b_{0,2}h_{1,3}h_{2,1}^2h_{2,2} - 12b_{0,2}h_{0,3}h_{2,1}h_{5,1} + 48b_{1,2}h_{1,2}^2h_{2,1}h_{2,2} \\
& -12b_{0,2}h_{0,3}h_{3,1}h_{4,1} - 16b_{0,2}h_{1,2}h_{2,1}h_{4,2} - 16b_{0,2}h_{1,2}h_{2,2}h_{4,1} - 16b_{0,2}h_{1,2}h_{3,1}h_{3,2} \\
& -12b_{0,2}h_{1,3}h_{2,1}h_{4,1} - 16b_{0,2}h_{2,1}h_{2,2}h_{3,2} - 12b_{0,2}h_{2,1}h_{2,3}h_{3,1} + 36b_{2,2}h_{0,3}h_{1,2}h_{2,1}^2 \\
& -12b_{2,2}h_{0,3}h_{2,1}h_{3,1} - 16b_{2,2}h_{1,2}h_{2,1}h_{2,2} - 24b_{1,3}h_{1,2}h_{2,1}h_{3,1} - 144b_{1,2}h_{0,3}h_{1,2}^2h_{2,1}^2 \\
& -12b_{1,2}h_{0,3}h_{2,1}h_{4,1} - 16b_{1,2}h_{1,2}h_{2,1}h_{3,2} - 16b_{1,2}h_{1,2}h_{2,2}h_{3,1} - 12b_{1,2}h_{1,3}h_{2,1}h_{3,1} \\
& -16a_{2,2}h_{1,2}h_{2,1}h_{3,1} + 54a_{3,1}h_{0,3}h_{1,2}h_{2,1}^2 - 18a_{3,1}h_{0,3}h_{2,1}h_{3,1} - 24a_{3,1}h_{1,2}h_{2,1}h_{2,2} \\
& -144a_{2,1}h_{0,3}h_{1,2}^2h_{2,1}^2 + 36a_{2,1}h_{0,3}h_{2,1}^2h_{2,2} + 48a_{2,1}h_{1,2}^2h_{2,1}h_{2,2} + 36b_{1,2}h_{0,3}h_{2,1}^2h_{2,2} \\
& +36a_{2,1}h_{1,2}h_{1,3}h_{2,1}^2 - 12a_{2,1}h_{0,3}h_{2,1}h_{4,1} - 16a_{2,1}h_{1,2}h_{2,1}h_{3,2} - 16a_{2,1}h_{1,2}h_{2,2}h_{3,1} \\
& -12a_{2,1}h_{1,3}h_{2,1}h_{3,1} - 48a_{1,2}h_{0,3}h_{1,2}h_{2,1}^3 + 18a_{1,2}h_{0,3}h_{2,1}^2h_{3,1} + 36b_{1,2}h_{1,2}h_{1,3}h_{2,1}^2 \\
& -8a_{1,2}h_{2,1}h_{2,2}h_{3,1} - 144b_{0,3}h_{0,3}h_{1,2}h_{2,1}^3 + 54b_{0,3}h_{0,3}h_{2,1}^2h_{3,1} + 24a_{1,2}h_{1,2}^2h_{2,1}h_{3,1} \\
& +72b_{0,3}h_{1,2}^2h_{2,1}h_{3,1} + 72b_{0,3}h_{1,2}h_{2,1}^2h_{2,2} - 24b_{0,3}h_{1,2}h_{2,1}h_{4,1} + 24a_{1,2}h_{1,2}h_{2,1}^2h_{2,2} \\
& -54a_{1,1}h_{0,3}^2h_{2,1}^2h_{3,1} - 36a_{1,1}h_{0,3}h_{1,3}h_{2,1}^3 - 32a_{1,1}h_{0,4}h_{1,2}h_{2,1}^3 - 24b_{0,3}h_{2,1}h_{2,2}h_{3,1} \\
& -64a_{1,1}h_{1,2}^3h_{2,1}h_{2,2} - 72a_{1,1}h_{1,2}^2h_{1,3}h_{2,1}^2 + 18a_{1,1}h_{0,3}h_{1,2}h_{2,1}^2 + 180a_{1,1}h_{0,3}^2h_{1,2}h_{2,1}^3 \\
& +18a_{1,1}h_{0,3}h_{2,1}^2h_{3,2} + 12a_{1,1}h_{0,4}h_{2,1}^2h_{3,1} + 24a_{1,1}h_{1,2}^2h_{2,1}h_{3,2} + 240a_{1,1}h_{0,3}h_{1,2}^3h_{2,1}^2 \\
& +24a_{1,1}h_{1,2}^2h_{2,2}h_{3,1} + 64b_{0,2}h_{1,2}^5h_{2,1} - 32b_{0,2}h_{1,2}^4h_{3,1} + 16b_{0,2}h_{1,2}^3h_{4,1} - 2b_{5,2}h_{2,1} \\
& +8b_{0,2}h_{1,4}h_{2,1}^3 - 8b_{0,2}h_{1,2}^2h_{5,1} - 6b_{0,2}h_{1,3}h_{3,1}^2 - 6b_{0,2}h_{2,1}^2h_{3,3} - 8a_{1,2}h_{1,2}h_{2,1}h_{4,1} \\
& -8b_{0,2}h_{2,2}^2h_{3,1} + 4b_{0,2}h_{1,2}h_{6,1} + 4b_{0,2}h_{2,1}h_{5,2} + 4b_{0,2}h_{2,2}h_{5,1} + 4b_{0,2}h_{3,1}h_{4,2} \\
& -12b_{1,3}h_{2,1}^2h_{2,2} + 6b_{1,3}h_{2,1}h_{4,1} - 36b_{1,2}h_{0,3}^2h_{2,1}^3 - 32b_{1,2}h_{1,2}^4h_{2,1} + 4b_{0,2}h_{3,2}h_{4,1} \\
& +8b_{1,2}h_{0,4}h_{2,1}^3 + 16b_{1,2}h_{1,2}^3h_{3,1} - 6b_{1,2}h_{0,3}h_{3,1}^2 - 8b_{1,2}h_{1,2}^2h_{4,1} + 4b_{2,2}h_{2,2}h_{3,1}
\end{aligned}$$

$$\begin{aligned}
& -6 b_{1,2} h_{2,1}^2 h_{2,3} - 8 b_{1,2} h_{2,1} h_{2,2}^2 + 4 b_{1,2} h_{1,2} h_{5,1} + 4 b_{1,2} h_{2,1} h_{4,2} + 18 b_{1,3} h_{0,3} h_{2,1}^3 \\
& + 4 b_{1,2} h_{2,2} h_{4,1} + 4 b_{1,2} h_{3,1} h_{3,2} - 6 b_{3,2} h_{0,3} h_{2,1}^2 - 8 b_{3,2} h_{1,2}^2 h_{2,1} + 36 b_{1,3} h_{1,2}^2 h_{2,1}^2 \\
& - 8 a_{2,2} h_{2,1}^2 h_{2,2} + 4 a_{2,2} h_{2,1} h_{4,1} + 10 a_{5,1} h_{1,2} h_{2,1} + 24 a_{3,1} h_{1,2}^3 h_{2,1} + 4 b_{3,2} h_{1,2} h_{3,1} \\
& - 12 a_{3,1} h_{1,2}^2 h_{3,1} - 9 a_{3,1} h_{1,3} h_{2,1}^2 + 6 a_{3,1} h_{1,2} h_{4,1} + 6 a_{3,1} h_{2,1} h_{3,2} + 4 b_{3,2} h_{2,1} h_{2,2} \\
& + 6 a_{3,1} h_{2,2} h_{3,1} - 36 a_{2,1} h_{0,3}^2 h_{2,1}^3 - 32 a_{2,1} h_{1,2}^4 h_{2,1} + 8 a_{2,1} h_{0,4} h_{2,1}^3 + 12 a_{2,2} h_{0,3} h_{2,1}^3 \\
& + 16 a_{2,1} h_{1,2}^3 h_{3,1} - 6 a_{2,1} h_{0,3} h_{3,1}^2 - 8 a_{2,1} h_{1,2}^2 h_{4,1} - 6 a_{2,1} h_{2,1}^2 h_{2,3} + 24 a_{2,2} h_{1,2}^2 h_{2,1}^2 \\
& + 4 a_{2,1} h_{3,1} h_{3,2} - 12 a_{4,1} h_{0,3} h_{2,1}^2 - 16 a_{4,1} h_{1,2}^2 h_{2,1} + 8 a_{4,1} h_{1,2} h_{3,1} - 8 a_{2,1} h_{2,1} h_{2,2}^2 \\
& + 8 a_{4,1} h_{2,1} h_{2,2} - 32 a_{1,2} h_{1,2}^3 h_{2,1}^2 + 6 a_{1,2} h_{1,3} h_{2,1}^3 - 4 a_{1,2} h_{1,2} h_{3,1}^2 + 4 a_{2,1} h_{1,2} h_{5,1} \\
& - 4 a_{1,2} h_{2,1}^2 h_{3,2} + 2 a_{1,2} h_{2,1} h_{5,1} + 2 a_{1,2} h_{3,1} h_{4,1} - 96 b_{0,3} h_{1,2}^3 h_{2,1}^2 + 4 a_{2,1} h_{2,1} h_{4,2} \\
& + 18 b_{0,3} h_{1,3} h_{2,1}^3 - 12 b_{0,3} h_{1,2} h_{3,1}^2 - 12 b_{0,3} h_{2,1}^2 h_{3,2} + 6 b_{0,3} h_{2,1} h_{5,1} + 4 a_{2,1} h_{2,2} h_{4,1} \\
& + 6 b_{0,3} h_{3,1} h_{4,1} + 4 a_{1,1} h_{1,4} h_{2,1}^3 - 4 a_{1,1} h_{1,2}^2 h_{5,1} - 3 a_{1,1} h_{1,3} h_{3,1}^2 - 3 a_{1,1} h_{2,1}^2 h_{3,3} \\
& + 32 a_{1,1} h_{1,2}^5 h_{2,1} - 4 a_{1,1} h_{2,2}^2 h_{3,1} + 2 a_{1,1} h_{1,2} h_{6,1} + 2 a_{1,1} h_{2,1} h_{5,2} + 2 a_{1,1} h_{2,2} h_{5,1} \\
& - 16 a_{1,1} h_{1,2}^4 h_{3,1} + 2 a_{1,1} h_{3,2} h_{4,1} - 12 b_{2,3} h_{1,2} h_{2,1}^2 + 6 b_{2,3} h_{2,1} h_{3,1} - 12 a_{3,2} h_{1,2} h_{2,1}^2 \\
& + 8 a_{1,1} h_{1,2}^3 h_{4,1} + 6 a_{1,3} h_{1,2} h_{2,1}^3 - 3 a_{1,3} h_{2,1}^2 h_{3,1} + 24 b_{0,4} h_{1,2} h_{2,1}^3 - 12 b_{0,4} h_{2,1}^2 h_{3,1} \\
& + 4 b_{4,2} h_{1,2} h_{2,1} + 16 b_{2,2} h_{1,2}^3 h_{2,1} - 8 b_{2,2} h_{1,2}^2 h_{3,1} - 6 b_{2,2} h_{1,3} h_{2,1}^2 + 6 a_{3,2} h_{2,1} h_{3,1} \\
& + 4 b_{2,2} h_{1,2} h_{4,1} + 4 b_{2,2} h_{2,1} h_{3,2} + 8 a_{8,0} + b_{7,1} - 2 b_{4,2} h_{3,1} - 2 b_{2,2} h_{5,1} + 3 b_{1,3} h_{3,1}^2 \\
& - 2 b_{1,2} h_{6,1} - 2 b_{3,2} h_{4,1} + 2 a_{2,2} h_{3,1}^2 - 5 a_{5,1} h_{3,1} - 3 a_{3,1} h_{5,1} - 2 a_{2,1} h_{6,1} - 4 a_{4,1} h_{4,1} \\
& - a_{1,1} h_{7,1} - 2 b_{0,2} h_{7,1} + 3 b_{3,3} h_{2,1}^2 + 4 a_{4,2} h_{2,1}^2 - 4 b_{1,4} h_{2,1}^3 + 2 a_{1,1} h_{3,1} h_{4,2} \\
& - 2 a_{2,3} h_{2,1}^3 - 6 a_{6,1} h_{2,1} \\
\bar{b}_{8,0} = & -288 a_{2,1} h_{0,3} h_{1,2}^2 h_{2,1} h_{3,1} - 288 a_{2,1} h_{0,3} h_{1,2} h_{2,1}^2 h_{2,2} + 72 a_{2,1} h_{0,3} h_{1,2} h_{2,1} h_{4,1} \\
& + 72 a_{2,1} h_{0,3} h_{2,1} h_{2,2} h_{3,1} + 72 a_{2,1} h_{1,2} h_{1,3} h_{2,1} h_{3,1} - 144 a_{1,1} h_{1,2}^2 h_{1,3} h_{2,1} h_{3,1} \\
& - 144 a_{1,1} h_{1,2} h_{1,3} h_{2,1}^2 h_{2,2} + 36 a_{1,1} h_{1,2} h_{1,3} h_{2,1} h_{4,1} + 36 a_{1,1} h_{1,3} h_{2,1} h_{2,2} h_{3,1} \\
& + 36 a_{1,1} h_{1,2} h_{2,1} h_{2,3} h_{3,1} + 540 a_{1,1} h_{0,3}^2 h_{1,2} h_{2,1}^2 h_{3,1} + 480 a_{1,1} h_{0,3} h_{1,2}^3 h_{2,1} h_{3,1} \\
& + 720 a_{1,1} h_{0,3} h_{1,2}^2 h_{2,1}^2 h_{2,2} - 144 a_{1,1} h_{0,3} h_{1,2}^2 h_{2,1} h_{4,1} - 144 a_{1,1} h_{0,3} h_{1,2} h_{2,1}^2 h_{3,2} \\
& + 36 a_{1,1} h_{0,3} h_{1,2} h_{2,1} h_{5,1} + 36 a_{1,1} h_{0,3} h_{1,2} h_{3,1} h_{4,1} + 36 a_{1,1} h_{0,3} h_{2,1} h_{3,1} h_{3,2} \\
& + 36 a_{1,1} h_{0,3} h_{2,1} h_{2,2} h_{4,1} + 1080 b_{0,2} h_{0,3}^2 h_{1,2} h_{2,1}^2 h_{3,1} + 72 b_{0,2} h_{0,3} h_{2,1} h_{3,1} h_{3,2} \\
& - 96 a_{1,1} h_{0,4} h_{1,2} h_{2,1}^2 h_{3,1} + 96 b_{0,2} h_{1,2} h_{2,1} h_{2,2} h_{3,2} + 720 b_{0,2} h_{0,3} h_{1,2} h_{1,3} h_{2,1}^3 \\
& - 216 b_{0,2} h_{0,3} h_{1,3} h_{2,1}^2 h_{3,1} - 288 b_{0,2} h_{1,2}^2 h_{1,3} h_{2,1} h_{3,1} - 288 b_{0,2} h_{1,2} h_{1,3} h_{2,1}^2 h_{2,2} \\
& + 72 b_{0,2} h_{1,2} h_{1,3} h_{2,1} h_{4,1} + 72 b_{0,2} h_{1,3} h_{2,1} h_{2,2} h_{3,1} + 72 b_{0,2} h_{1,2} h_{2,1} h_{2,3} h_{3,1} \\
& + 960 b_{0,2} h_{0,3} h_{1,2}^3 h_{2,1} h_{3,1} + 1440 b_{0,2} h_{0,3} h_{1,2}^2 h_{2,1}^2 h_{2,2} - 288 b_{0,2} h_{0,3} h_{1,2}^2 h_{2,1} h_{4,1} \\
& - 288 b_{0,2} h_{0,3} h_{1,2} h_{2,1}^2 h_{3,2} + 72 b_{0,2} h_{0,3} h_{1,2} h_{2,1} h_{5,1} + 72 b_{0,2} h_{0,3} h_{1,2} h_{3,1} h_{4,1}
\end{aligned}$$

$$\begin{aligned}
& +72 b_{0,2} h_{0,3} h_{2,1} h_{2,2} h_{4,1} - 192 b_{0,2} h_{0,4} h_{1,2} h_{2,1}^2 h_{3,1} - 144 a_{1,2} h_{0,3} h_{1,2} h_{2,1}^2 h_{3,1} \\
& +48 a_{1,2} h_{1,2} h_{2,1} h_{2,2} h_{3,1} - 432 b_{0,3} h_{0,3} h_{1,2} h_{2,1}^2 h_{3,1} + 144 b_{0,3} h_{1,2} h_{2,1} h_{2,2} h_{3,1} \\
& +72 b_{2,2} h_{0,3} h_{1,2} h_{2,1} h_{3,1} - 288 b_{1,2} h_{0,3} h_{1,2}^2 h_{2,1} h_{3,1} - 288 b_{1,2} h_{0,3} h_{1,2} h_{2,1}^2 h_{2,2} \\
& +72 b_{1,2} h_{0,3} h_{1,2} h_{2,1} h_{4,1} + 72 b_{1,2} h_{0,3} h_{2,1} h_{2,2} h_{3,1} + 72 b_{1,2} h_{1,2} h_{1,3} h_{2,1} h_{3,1} \\
& +108 a_{3,1} h_{0,3} h_{1,2} h_{2,1} h_{3,1} + 48 a_{1,1} h_{1,2} h_{2,1} h_{2,2} h_{3,2} + 360 a_{1,1} h_{0,3} h_{1,2} h_{1,3} h_{2,1}^3 \\
& -108 a_{1,1} h_{0,3} h_{1,3} h_{2,1}^2 h_{3,1} - 64 a_{2,1} h_{0,4} h_{1,2} h_{2,1}^3 - 128 a_{2,1} h_{1,2}^3 h_{2,1} h_{2,2} \\
& -144 a_{2,1} h_{1,2}^2 h_{1,3} h_{2,1}^2 + 36 a_{2,1} h_{0,3} h_{1,2} h_{3,1}^2 + 36 a_{2,1} h_{0,3} h_{2,1}^2 h_{3,2} + 24 a_{2,1} h_{0,4} h_{2,1}^2 h_{3,1} \\
& +48 a_{2,1} h_{1,2}^2 h_{2,1} h_{3,2} + 48 a_{2,1} h_{1,2}^2 h_{2,2} h_{3,1} + 36 a_{2,1} h_{1,2} h_{2,1}^2 h_{2,3} + 48 a_{2,1} h_{1,2} h_{2,1} h_{2,2}^2 \\
& +36 a_{2,1} h_{1,3} h_{2,1}^2 h_{2,2} - 12 a_{2,1} h_{0,3} h_{2,1} h_{5,1} - 12 a_{2,1} h_{0,3} h_{3,1} h_{4,1} - 16 a_{2,1} h_{1,2} h_{2,1} h_{4,2} \\
& -16 a_{2,1} h_{1,2} h_{2,2} h_{4,1} - 16 a_{2,1} h_{1,2} h_{3,1} h_{3,2} - 12 a_{2,1} h_{1,3} h_{2,1} h_{4,1} - 16 a_{2,1} h_{2,1} h_{2,2} h_{3,2} \\
& -12 a_{2,1} h_{2,1} h_{2,3} h_{3,1} - 24 a_{3,2} h_{1,2} h_{2,1} h_{3,1} + 72 a_{4,1} h_{0,3} h_{1,2} h_{2,1}^2 - 24 a_{4,1} h_{0,3} h_{2,1} h_{3,1} \\
& -32 a_{4,1} h_{1,2} h_{2,1} h_{2,2} + 36 b_{2,2} h_{1,2} h_{1,3} h_{2,1}^2 - 12 b_{2,2} h_{0,3} h_{2,1} h_{4,1} - 16 b_{2,2} h_{1,2} h_{2,1} h_{3,2} \\
& -16 b_{2,2} h_{1,2} h_{2,2} h_{3,1} - 12 b_{2,2} h_{1,3} h_{2,1} h_{3,1} - 144 b_{1,3} h_{0,3} h_{1,2} h_{2,1}^3 + 54 b_{1,3} h_{0,3} h_{2,1}^2 h_{3,1} \\
& +72 b_{1,3} h_{1,2}^2 h_{2,1} h_{3,1} + 72 b_{1,3} h_{1,2} h_{2,1}^2 h_{2,2} - 24 b_{1,3} h_{1,2} h_{2,1} h_{4,1} - 24 b_{1,3} h_{2,1} h_{2,2} h_{3,1} \\
& -24 b_{2,3} h_{1,2} h_{2,1} h_{3,1} + 360 b_{1,2} h_{0,3}^2 h_{1,2} h_{2,1}^3 + 480 b_{1,2} h_{0,3} h_{1,2}^3 h_{2,1}^2 - 108 b_{1,2} h_{0,3}^2 h_{2,1}^2 h_{3,1} \\
& -72 b_{1,2} h_{0,3} h_{1,3} h_{2,1}^3 - 64 b_{1,2} h_{0,4} h_{1,2} h_{2,1}^3 - 128 b_{1,2} h_{1,2}^3 h_{2,1} h_{2,2} - 144 b_{1,2} h_{1,2}^2 h_{1,3} h_{2,1}^2 \\
& +36 b_{1,2} h_{0,3} h_{1,2} h_{3,1}^2 + 36 b_{1,2} h_{0,3} h_{2,1}^2 h_{3,2} + 24 b_{1,2} h_{0,4} h_{2,1}^2 h_{3,1} + 48 b_{1,2} h_{1,2}^2 h_{2,1} h_{3,2} \\
& +48 b_{1,2} h_{1,2}^2 h_{2,2} h_{3,1} + 36 b_{1,2} h_{1,2} h_{2,1}^2 h_{2,3} + 48 b_{1,2} h_{1,2} h_{2,1} h_{2,2}^2 + 36 b_{1,2} h_{1,3} h_{2,1}^2 h_{2,2} \\
& -12 b_{1,2} h_{0,3} h_{2,1} h_{5,1} - 12 b_{1,2} h_{0,3} h_{3,1} h_{4,1} - 16 b_{1,2} h_{1,2} h_{2,1} h_{4,2} - 16 b_{1,2} h_{1,2} h_{2,2} h_{4,1} \\
& -16 b_{1,2} h_{1,2} h_{3,1} h_{3,2} - 12 b_{1,2} h_{1,3} h_{2,1} h_{4,1} - 16 b_{1,2} h_{2,1} h_{2,2} h_{3,2} - 12 b_{1,2} h_{2,1} h_{2,3} h_{3,1} \\
& +36 b_{3,2} h_{0,3} h_{1,2} h_{2,1}^2 - 12 b_{3,2} h_{0,3} h_{2,1} h_{3,1} - 16 b_{3,2} h_{1,2} h_{2,1} h_{2,2} - 96 a_{2,2} h_{0,3} h_{1,2} h_{2,1}^3 \\
& +36 a_{2,2} h_{0,3} h_{2,1}^2 h_{3,1} + 48 a_{2,2} h_{1,2}^2 h_{2,1} h_{3,1} + 48 a_{2,2} h_{1,2} h_{2,1}^2 h_{2,2} - 16 a_{2,2} h_{1,2} h_{2,1} h_{4,1} \\
& -16 a_{2,2} h_{2,1} h_{2,2} h_{3,1} - 216 a_{3,1} h_{0,3} h_{1,2} h_{2,1}^2 + 54 a_{3,1} h_{0,3} h_{2,1}^2 h_{2,2} + 72 a_{3,1} h_{1,2}^2 h_{2,1} h_{2,2} \\
& +54 a_{3,1} h_{1,2} h_{1,3} h_{2,1}^2 - 18 a_{3,1} h_{0,3} h_{2,1} h_{4,1} - 24 a_{3,1} h_{1,2} h_{2,1} h_{3,2} - 24 a_{3,1} h_{1,2} h_{2,2} h_{3,1} \\
& -18 a_{3,1} h_{1,3} h_{2,1} h_{3,1} + 360 a_{2,1} h_{0,3}^2 h_{1,2} h_{2,1}^3 + 480 a_{2,1} h_{0,3} h_{1,2}^3 h_{2,1}^2 - 108 a_{2,1} h_{0,3}^2 h_{2,1}^2 h_{3,1} \\
& -72 a_{2,1} h_{0,3} h_{1,3} h_{2,1}^3 - 1440 b_{0,2} h_{0,3} h_{1,2}^4 h_{2,1}^2 - 108 b_{0,2} h_{0,3}^2 h_{2,1} h_{3,1}^2 - 144 b_{0,2} h_{0,3} h_{1,2}^2 h_{2,1}^3 \\
& +36 b_{0,2} h_{0,3} h_{2,2} h_{3,1}^2 - 12 b_{0,2} h_{0,3} h_{3,1} h_{5,1} + 360 b_{0,2} h_{0,3}^2 h_{2,1}^3 h_{2,2} + 120 b_{0,2} h_{0,3} h_{0,4} h_{2,1}^4 \\
& -108 b_{0,2} h_{0,3}^2 h_{2,1}^2 h_{4,1} - 144 b_{0,2} h_{0,3} h_{2,1}^2 h_{2,2}^2 + 36 b_{0,2} h_{0,3} h_{2,1}^2 h_{4,2} - 12 b_{0,2} h_{0,3} h_{2,1} h_{6,1} \\
& +320 b_{0,2} h_{0,4} h_{1,2}^2 h_{2,1}^3 - 64 b_{0,2} h_{0,4} h_{2,1}^3 h_{2,2} + 24 b_{0,2} h_{0,4} h_{2,1}^2 h_{4,1} - 64 b_{0,2} h_{1,2} h_{1,4} h_{2,1}^3 \\
& +24 b_{0,2} h_{1,4} h_{2,1}^2 h_{3,1} + 36 b_{0,2} h_{1,2} h_{2,1}^2 h_{3,3} - 12 b_{0,2} h_{2,1} h_{3,1} h_{3,3} + 24 b_{0,2} h_{0,4} h_{2,1} h_{3,1}^2 \\
& +48 b_{0,2} h_{1,2}^2 h_{2,1} h_{4,2} - 16 b_{0,2} h_{1,2} h_{3,1} h_{4,2} - 16 b_{0,2} h_{2,1} h_{2,2} h_{4,2} + 320 b_{0,2} h_{1,2}^4 h_{2,1} h_{2,2}
\end{aligned}$$

$$\begin{aligned}
& +18 a_{1,3} h_{1,2} h_{2,1}^2 h_{3,1} + 240 a_{1,2} h_{0,3} h_{1,2}^2 h_{2,1}^3 - 48 a_{1,2} h_{0,3} h_{2,1}^3 h_{2,2} - 64 a_{1,2} h_{1,2}^3 h_{2,1} h_{3,1} \\
& -96 a_{1,2} h_{1,2}^2 h_{2,1}^2 h_{2,2} - 48 a_{1,2} h_{1,2} h_{1,3} h_{2,1}^3 + 18 a_{1,2} h_{0,3} h_{2,1}^2 h_{4,1} + 18 a_{1,2} h_{0,3} h_{2,1} h_{3,1}^2 \\
& +24 a_{1,2} h_{1,2}^2 h_{2,1} h_{4,1} + 24 a_{1,2} h_{1,2} h_{2,1}^2 h_{3,2} + 18 a_{1,2} h_{1,3} h_{2,1}^2 h_{3,1} - 8 a_{1,2} h_{1,2} h_{2,1} h_{5,1} \\
& -8 a_{1,2} h_{1,2} h_{3,1} h_{4,1} - 8 a_{1,2} h_{2,1} h_{2,2} h_{4,1} - 8 a_{1,2} h_{2,1} h_{3,1} h_{3,2} + 720 b_{0,3} h_{0,3} h_{1,2}^2 h_{2,1}^3 \\
& -144 b_{0,3} h_{0,3} h_{2,1}^3 h_{2,2} - 192 b_{0,3} h_{1,2}^3 h_{2,1} h_{3,1} - 288 b_{0,3} h_{1,2}^2 h_{2,1}^2 h_{2,2} - 144 b_{0,3} h_{1,2} h_{1,3} h_{2,1}^3 \\
& +54 b_{0,3} h_{0,3} h_{2,1}^2 h_{4,1} + 54 b_{0,3} h_{0,3} h_{2,1} h_{3,1}^2 + 72 b_{0,3} h_{1,2}^2 h_{2,1} h_{4,1} + 72 b_{0,3} h_{1,2} h_{2,1}^2 h_{3,2} \\
& +54 b_{0,3} h_{1,3} h_{2,1}^2 h_{3,1} - 24 b_{0,3} h_{1,2} h_{2,1} h_{5,1} - 24 b_{0,3} h_{1,2} h_{3,1} h_{4,1} - 24 b_{0,3} h_{2,1} h_{2,2} h_{4,1} \\
& -24 b_{0,3} h_{2,1} h_{3,1} h_{3,2} + 72 b_{0,4} h_{1,2} h_{2,1}^2 h_{3,1} - 144 b_{2,2} h_{0,3} h_{1,2}^2 h_{2,1}^2 + 36 b_{2,2} h_{0,3} h_{2,1}^2 h_{2,2} \\
& +48 b_{2,2} h_{1,2}^2 h_{2,1} h_{2,2} + 24 a_{1,1} h_{1,2}^2 h_{3,1} h_{3,2} - 8 a_{1,1} h_{1,2} h_{2,1} h_{5,2} - 8 a_{1,1} h_{1,2} h_{3,2} h_{4,1} \\
& +240 a_{1,1} h_{1,2}^3 h_{1,3} h_{2,1}^2 + 18 a_{1,1} h_{1,2} h_{1,3} h_{3,1}^2 - 6 a_{1,1} h_{1,3} h_{3,1} h_{4,1} + 18 a_{1,1} h_{1,3} h_{2,1}^2 h_{3,2} \\
& -6 a_{1,1} h_{1,3} h_{2,1} h_{5,1} - 36 a_{1,1} h_{0,3} h_{2,1}^2 h_{2,3} - 72 a_{1,1} h_{1,2}^2 h_{2,1}^2 h_{2,3} + 18 a_{1,1} h_{2,1}^2 h_{2,2} h_{2,3} \\
& -6 a_{1,1} h_{2,1} h_{2,3} h_{4,1} - 1080 a_{1,1} h_{0,3}^2 h_{1,2}^2 h_{2,1}^3 - 720 a_{1,1} h_{0,3} h_{1,2}^4 h_{2,1}^2 - 54 a_{1,1} h_{0,3}^2 h_{2,1} h_{3,1}^2 \\
& -72 a_{1,1} h_{0,3} h_{1,2}^2 h_{3,1}^2 + 18 a_{1,1} h_{0,3} h_{2,2} h_{3,1}^2 - 6 a_{1,1} h_{0,3} h_{3,1} h_{5,1} + 180 a_{1,1} h_{0,3}^2 h_{2,1}^3 h_{2,2} \\
& +60 a_{1,1} h_{0,3} h_{0,4} h_{2,1}^4 - 54 a_{1,1} h_{0,3}^2 h_{2,1}^2 h_{4,1} - 72 a_{1,1} h_{0,3} h_{2,1}^2 h_{2,2}^2 + 18 a_{1,1} h_{0,3} h_{2,1}^2 h_{4,2} \\
& -6 a_{1,1} h_{0,3} h_{2,1} h_{6,1} + 160 a_{1,1} h_{0,4} h_{1,2}^2 h_{2,1}^3 - 32 a_{1,1} h_{0,4} h_{2,1}^3 h_{2,2} + 12 a_{1,1} h_{0,4} h_{2,1}^2 h_{4,1} \\
& -32 a_{1,1} h_{1,2} h_{1,4} h_{2,1}^3 + 12 a_{1,1} h_{1,4} h_{2,1}^2 h_{3,1} + 18 a_{1,1} h_{1,2} h_{2,1}^2 h_{3,3} - 6 a_{1,1} h_{2,1} h_{3,1} h_{3,3} \\
& +12 a_{1,1} h_{0,4} h_{2,1} h_{3,1}^2 + 24 a_{1,1} h_{1,2}^2 h_{2,1} h_{4,2} - 8 a_{1,1} h_{1,2} h_{3,1} h_{4,2} - 8 a_{1,1} h_{2,1} h_{2,2} h_{4,2} \\
& +160 a_{1,1} h_{1,2}^4 h_{2,1} h_{2,2} - 128 b_{0,2} h_{1,2}^3 h_{2,2} h_{3,1} - 192 b_{0,2} h_{1,2}^2 h_{2,1} h_{2,2}^2 + 48 b_{0,2} h_{1,2}^2 h_{2,2} h_{4,1} \\
& +48 b_{0,2} h_{1,2} h_{2,2}^2 h_{3,1} - 16 b_{0,2} h_{1,2} h_{2,2} h_{5,1} - 16 b_{0,2} h_{2,2} h_{3,1} h_{3,2} - 128 b_{0,2} h_{1,2}^3 h_{2,1} h_{3,2} \\
& +48 b_{0,2} h_{1,2}^2 h_{3,1} h_{3,2} - 16 b_{0,2} h_{1,2} h_{2,1} h_{5,2} - 16 b_{0,2} h_{1,2} h_{3,2} h_{4,1} + 480 b_{0,2} h_{1,2}^3 h_{1,3} h_{2,1}^2 \\
& +36 b_{0,2} h_{1,2} h_{1,3} h_{3,1}^2 - 12 b_{0,2} h_{1,3} h_{3,1} h_{4,1} + 36 b_{0,2} h_{1,3} h_{2,1}^2 h_{3,2} - 12 b_{0,2} h_{1,3} h_{2,1} h_{5,1} \\
& -72 b_{0,2} h_{0,3} h_{2,1}^3 h_{2,3} - 144 b_{0,2} h_{1,2}^2 h_{2,1}^2 h_{2,3} + 36 b_{0,2} h_{2,1}^2 h_{2,2} h_{2,3} - 12 b_{0,2} h_{2,1} h_{2,3} h_{4,1} \\
& -2160 b_{0,2} h_{0,3}^2 h_{1,2}^2 h_{2,1}^3 - 64 a_{1,1} h_{1,2}^3 h_{2,2} h_{3,1} - 96 a_{1,1} h_{1,2}^2 h_{2,1} h_{2,2}^2 + 24 a_{1,1} h_{1,2}^2 h_{2,2} h_{4,1} \\
& +24 a_{1,1} h_{1,2} h_{2,2}^2 h_{3,1} - 8 a_{1,1} h_{1,2} h_{2,2} h_{5,1} - 8 a_{1,1} h_{2,2} h_{3,1} h_{3,2} - 64 a_{1,1} h_{1,2}^3 h_{2,1} h_{3,2} \\
& +6 b_{2,3} h_{2,1} h_{4,1} + 64 b_{1,2} h_{1,2}^5 h_{2,1} - 32 b_{1,2} h_{1,2}^4 h_{3,1} + 16 b_{1,2} h_{1,2}^3 h_{4,1} + 4 b_{5,2} h_{1,2} h_{2,1} \\
& +8 b_{1,2} h_{1,4} h_{2,1}^3 - 8 b_{1,2} h_{1,2}^2 h_{5,1} - 6 b_{1,2} h_{1,3} h_{3,1}^2 - 6 b_{1,2} h_{2,1}^2 h_{3,3} + 18 b_{2,3} h_{0,3} h_{2,1}^3 \\
& -8 b_{1,2} h_{2,2}^2 h_{3,1} + 4 b_{1,2} h_{1,2} h_{6,1} + 4 b_{1,2} h_{2,1} h_{5,2} + 4 b_{1,2} h_{2,2} h_{5,1} + 36 b_{2,3} h_{1,2}^2 h_{2,1}^2 \\
& +4 b_{1,2} h_{3,1} h_{4,2} + 4 b_{1,2} h_{3,2} h_{4,1} + 16 b_{3,2} h_{1,2}^3 h_{2,1} - 8 b_{3,2} h_{1,2}^2 h_{3,1} - 6 b_{3,2} h_{1,3} h_{2,1}^2 \\
& +4 b_{3,2} h_{1,2} h_{4,1} + 4 b_{3,2} h_{2,1} h_{3,2} + 4 b_{3,2} h_{2,2} h_{3,1} - 64 a_{2,2} h_{1,2}^3 h_{2,1}^2 + 9 a_{9,0} \\
& +b_{8,1} + a_{1,2} h_{4,1}^2 + 3 b_{0,3} h_{4,1}^2 - 2 b_{4,2} h_{4,1} - 2 b_{2,2} h_{6,1} - 2 b_{5,2} h_{3,1} + 3 b_{2,3} h_{3,1}^2 \\
& -2 b_{1,2} h_{7,1} - 2 b_{3,2} h_{5,1} - 6 a_{6,1} h_{3,1} - 5 a_{5,1} h_{4,1} - 3 a_{3,1} h_{6,1} - 2 a_{2,1} h_{7,1} + 3 a_{3,2} h_{3,1}^2
\end{aligned}$$

$$\begin{aligned}
& -4a_{4,1}h_{5,1} - a_{1,1}h_{8,1} - 2b_{0,2}h_{8,1} + 3b_{4,3}h_{2,1}^2 + 5a_{5,2}h_{2,1}^2 + a_{1,4}h_{2,1}^4 + 5b_{0,5}h_{2,1}^4 \\
& -2b_{6,2}h_{2,1} - 4b_{2,4}h_{2,1}^3 - 3a_{3,3}h_{2,1}^3 - 7a_{7,1}h_{2,1} - 288a_{1,1}h_{0,3}h_{1,2}h_{2,1}h_{2,2}h_{3,1} \\
& -576b_{0,2}h_{0,3}h_{1,2}h_{2,1}h_{2,2}h_{3,1} + 12a_{2,2}h_{1,3}h_{2,1}^3 - 8a_{2,2}h_{1,2}h_{3,1}^2 - 8a_{2,2}h_{2,1}^2h_{3,2} \\
& +4a_{2,2}h_{2,1}h_{5,1} + 4a_{2,2}h_{3,1}h_{4,1} + 12a_{6,1}h_{1,2}h_{2,1} - 15a_{5,1}h_{0,3}h_{2,1}^2 - 20a_{5,1}h_{1,2}^2h_{2,1} \\
& +10a_{5,1}h_{1,2}h_{3,1} + 10a_{5,1}h_{2,1}h_{2,2} - 54a_{3,1}h_{0,3}h_{2,1}^3 - 48a_{3,1}h_{1,2}^4h_{2,1} + 12a_{3,1}h_{0,4}h_{2,1}^3 \\
& +24a_{3,1}h_{1,2}^3h_{3,1} - 9a_{3,1}h_{0,3}h_{3,1}^2 - 12a_{3,1}h_{1,2}^2h_{4,1} - 9a_{3,1}h_{2,1}^2h_{2,3} - 12b_{2,3}h_{2,1}^2h_{2,2} \\
& -12a_{3,1}h_{2,1}h_{2,2}^2 + 6a_{3,1}h_{1,2}h_{5,1} + 6a_{3,1}h_{2,1}h_{4,2} + 6a_{3,1}h_{2,2}h_{4,1} + 6a_{3,1}h_{3,1}h_{3,2} \\
& +64a_{2,1}h_{1,2}^5h_{2,1} - 32a_{2,1}h_{1,2}^4h_{3,1} + 16a_{2,1}h_{1,2}^3h_{4,1} + 8a_{2,1}h_{1,4}h_{2,1}^3 - 8a_{2,1}h_{1,2}^2h_{5,1} \\
& -6a_{2,1}h_{1,3}h_{3,1}^2 - 6a_{2,1}h_{2,1}^2h_{3,3} - 8a_{2,1}h_{2,2}^2h_{3,1} + 4a_{2,1}h_{1,2}h_{6,1} + 4a_{2,1}h_{2,1}h_{5,2} \\
& +4a_{2,1}h_{2,2}h_{5,1} + 4a_{2,1}h_{3,1}h_{4,2} + 4a_{2,1}h_{3,2}h_{4,1} + 18a_{3,2}h_{0,3}h_{2,1}^3 + 36a_{3,2}h_{1,2}^2h_{2,1}^2 \\
& -12a_{3,2}h_{2,1}^2h_{2,2} + 6a_{3,2}h_{2,1}h_{4,1} + 32a_{4,1}h_{1,2}^3h_{2,1} - 16a_{4,1}h_{1,2}^2h_{3,1} - 12a_{4,1}h_{1,3}h_{2,1}^2 \\
& +8a_{4,1}h_{1,2}h_{4,1} + 8a_{4,1}h_{2,1}h_{3,2} + 8a_{4,1}h_{2,2}h_{3,1} + 8b_{0,2}h_{2,4}h_{2,1}^3 - 12b_{3,3}h_{1,2}h_{2,1}^2 \\
& +6b_{3,3}h_{2,1}h_{3,1} - 16a_{4,2}h_{1,2}h_{2,1}^2 + 8a_{4,2}h_{2,1}h_{3,1} + 24b_{1,4}h_{1,2}h_{2,1}^3 - 12b_{1,4}h_{2,1}^2h_{3,1} \\
& +12a_{2,3}h_{1,2}h_{2,1}^3 - 6a_{2,3}h_{2,1}^2h_{3,1} - 9a_{1,3}h_{0,3}h_{2,1}^4 - 24a_{1,3}h_{1,2}^2h_{2,1}^3 + 6a_{1,3}h_{2,1}^3h_{2,2} \\
& -8a_{1,2}h_{0,4}h_{2,1}^4 + 12a_{1,2}h_{1,2}^2h_{3,1}^2 + 6a_{1,2}h_{2,1}^3h_{2,3} + 12a_{1,2}h_{2,1}^2h_{2,2}^2 - 3a_{1,3}h_{2,1}^2h_{4,1} \\
& -4a_{1,2}h_{2,1}^2h_{4,2} - 4a_{1,2}h_{2,2}h_{3,1}^2 + 2a_{1,2}h_{2,1}h_{6,1} + 2a_{1,2}h_{3,1}h_{5,1} + 135b_{0,3}h_{0,3}^2h_{2,1}^4 \\
& -3a_{1,3}h_{2,1}h_{3,1}^2 + 240b_{0,3}h_{1,2}^4h_{2,1}^2 - 24b_{0,3}h_{0,4}h_{2,1}^4 + 36b_{0,3}h_{1,2}^2h_{3,1}^2 + 18b_{0,3}h_{2,1}^3h_{2,3} \\
& +36b_{0,3}h_{2,1}^2h_{2,2}^2 - 12b_{0,3}h_{2,1}^2h_{4,2} - 12b_{0,3}h_{2,2}h_{3,1}^2 + 6b_{0,3}h_{2,1}h_{6,1} + 6b_{0,3}h_{3,1}h_{5,1} \\
& -36b_{0,4}h_{0,3}h_{2,1}^4 - 96b_{0,4}h_{1,2}^2h_{2,1}^3 + 24b_{0,4}h_{2,1}^3h_{2,2} - 12b_{0,4}h_{2,1}^2h_{4,1} - 12b_{0,4}h_{2,1}h_{3,1}^2 \\
& -6b_{4,2}h_{0,3}h_{2,1}^2 - 8b_{4,2}h_{1,2}^2h_{2,1} + 4b_{4,2}h_{1,2}h_{3,1} + 4b_{4,2}h_{2,1}h_{2,2} - 36b_{2,2}h_{0,3}^2h_{2,1}^3 \\
& -32b_{2,2}h_{1,2}^4h_{2,1} + 8b_{2,2}h_{0,4}h_{2,1}^3 + 16b_{2,2}h_{1,2}^3h_{3,1} - 6b_{2,2}h_{0,3}h_{3,1}^2 - 8b_{2,2}h_{1,2}^2h_{4,1} \\
& -6b_{2,2}h_{2,1}^2h_{2,3} - 8b_{2,2}h_{2,1}h_{2,2}^2 + 4b_{2,2}h_{1,2}h_{5,1} + 4b_{2,2}h_{2,1}h_{4,2} + 4b_{2,2}h_{2,2}h_{4,1} \\
& +80a_{1,2}h_{1,2}^4h_{2,1}^2 + 4b_{2,2}h_{3,1}h_{3,2} - 96b_{1,3}h_{1,2}^3h_{2,1}^2 + 18b_{1,3}h_{1,3}h_{2,1}^3 - 12b_{1,3}h_{1,2}h_{3,1}^2 \\
& -12b_{1,3}h_{2,1}^2h_{3,2} + 6b_{1,3}h_{2,1}h_{5,1} + 6b_{1,3}h_{3,1}h_{4,1} - 18a_{1,1}h_{1,3}^2h_{2,1}^3 - 135a_{1,1}h_{0,3}^3h_{2,1}^4 \\
& +2a_{1,1}h_{4,1}h_{4,2} + 8a_{1,1}h_{2,1}h_{2,2}^3 - 4a_{1,1}h_{2,2}^2h_{4,1} + 2a_{1,1}h_{2,2}h_{6,1} - 3a_{1,1}h_{2,3}h_{3,1}^2 \\
& -64a_{1,1}h_{1,2}^6h_{2,1} + 32a_{1,1}h_{1,2}^5h_{3,1} - 16a_{1,1}h_{1,2}^4h_{4,1} + 8a_{1,1}h_{1,2}^3h_{5,1} - 4a_{1,1}h_{1,2}^2h_{6,1} \\
& +2a_{1,1}h_{1,2}h_{7,1} - 3a_{1,1}h_{0,3}h_{4,1}^2 - 4a_{1,1}h_{2,1}h_{3,2}^2 + 2a_{1,1}h_{3,2}h_{5,1} + 2a_{1,1}h_{3,1}h_{5,2} \\
& -3a_{1,1}h_{4,3}h_{2,1}^2 - 5a_{1,1}h_{0,5}h_{2,1}^4 + 2a_{1,1}h_{6,2}h_{2,1} + 4a_{1,1}h_{2,4}h_{2,1}^3 - 36b_{0,2}h_{1,3}^2h_{2,1}^3 \\
& +45a_{1,2}h_{0,3}^2h_{2,1}^4 - 270b_{0,2}h_{0,3}^3h_{2,1}^4 + 4b_{0,2}h_{4,1}h_{4,2} + 16b_{0,2}h_{2,1}h_{2,2}^3 - 8b_{0,2}h_{2,2}^2h_{4,1} \\
& -6b_{0,2}h_{2,3}h_{3,1}^2 - 128b_{0,2}h_{1,2}^6h_{2,1} + 64b_{0,2}h_{1,2}^5h_{3,1} - 32b_{0,2}h_{1,2}^4h_{4,1} + 4b_{0,2}h_{2,2}h_{6,1} \\
& +16b_{0,2}h_{1,2}^3h_{5,1} - 8b_{0,2}h_{1,2}^2h_{6,1} + 4b_{0,2}h_{1,2}h_{7,1} - 6b_{0,2}h_{0,3}h_{4,1}^2 - 10b_{0,2}h_{0,5}h_{2,1}^4
\end{aligned}$$

$$\begin{aligned}
& +4b_{0,2}h_{6,2}h_{2,1} - 8b_{0,2}h_{2,1}h_{3,2}^2 + 4b_{0,2}h_{3,2}h_{5,1} + 4b_{0,2}h_{3,1}h_{5,2} - 6b_{0,2}h_{4,3}h_{2,1}^2 \\
\bar{a}_{6,1} = & \frac{\sqrt{2}}{16} (3240h_{0,3}^3h_{2,1}^3 + 17820h_{0,3}^2h_{1,2}^2h_{2,1}^2 + 231h_{1,2}^6 + 6930h_{0,3}h_{1,2}^4h_{2,1} \\
& + 48h_{0,3}h_{6,1} - 6480h_{0,3}^2h_{1,2}h_{2,1}h_{3,1} - 3240h_{0,3}^2h_{2,1}^2h_{2,2} - 1632h_{0,3}h_{0,4}h_{2,1}^3 \\
& - 40h_{2,2}^3 - 2520h_{0,3}h_{1,2}^3h_{3,1} - 7560h_{0,3}h_{1,2}^2h_{2,1}h_{2,2} - 6480h_{0,3}h_{1,2}h_{1,3}h_{2,1}^2 \\
& - 3024h_{0,4}h_{1,2}^2h_{2,1}^2 - 630h_{1,2}^4h_{2,2} - 2520h_{1,2}^3h_{1,3}h_{2,1} + 720h_{0,3}^2h_{2,1}h_{4,1} \\
& + 48h_{1,2}h_{5,2} + 840h_{0,3}h_{1,2}^2h_{4,1} + 1680h_{0,3}h_{1,2}h_{2,1}h_{3,2} + 1680h_{0,3}h_{1,2}h_{2,2}h_{3,1} \\
& + 1440h_{0,3}h_{1,3}h_{2,1}h_{3,1} + 720h_{0,3}h_{2,1}^2h_{2,3} + 840h_{0,3}h_{2,1}h_{2,2}^2 + 840h_{1,2}^2h_{1,3}h_{3,1} \\
& + 672h_{0,4}h_{2,1}^2h_{2,2} + 160h_{0,5}h_{2,1}^3 + 1344h_{0,4}h_{1,2}h_{2,1}h_{3,1} + 280h_{1,2}^3h_{3,2} \\
& + 840h_{1,2}^2h_{2,1}h_{2,3} + 420h_{1,2}^2h_{2,2}^2 + 1680h_{1,2}h_{1,3}h_{2,1}h_{2,2} + 672h_{1,2}h_{1,4}h_{2,1}^2 \\
& + 360h_{1,3}^2h_{2,1}^2 - 240h_{0,3}h_{1,2}h_{5,1} - 240h_{0,3}h_{2,1}h_{4,2} - 240h_{0,3}h_{2,2}h_{4,1} \\
& - 192h_{0,4}h_{2,1}h_{4,1} - 240h_{1,2}h_{1,3}h_{4,1} - 240h_{1,2}h_{2,1}h_{3,3} - 240h_{1,2}h_{2,2}h_{3,2} \\
& - 240h_{1,2}h_{2,3}h_{3,1} - 240h_{1,3}h_{2,1}h_{3,2} - 240h_{1,3}h_{2,2}h_{3,1} - 240h_{2,1}h_{2,2}h_{2,3} \\
& + 48h_{1,3}h_{5,1} + 48h_{2,1}h_{4,3} + 48h_{2,2}h_{4,2} + 24h_{3,2}^2 - 16h_{6,2} + 360h_{0,3}^2h_{3,1}^2 \\
& + 48h_{2,3}h_{4,1} - 192h_{1,4}h_{2,1}h_{3,1} - 96h_{0,4}h_{3,1}^2 - 96h_{2,1}^2h_{2,4} - 240h_{0,3}h_{3,1}h_{3,2} \\
& + 48h_{3,1}h_{3,3} - 120h_{1,2}^2h_{4,2}) \\
\bar{a}_{7,1} = & -\frac{1}{16}\sqrt{2}(-160h_{1,5}h_{2,1}^3 - 48h_{5,3}h_{2,1} + 16h_{7,2} + 96h_{3,4}h_{2,1}^2 - 1386h_{1,2}^5h_{2,2} \\
& - 48h_{1,3}h_{6,1} - 48h_{2,3}h_{5,1} + 96h_{1,4}h_{3,1}^2 - 48h_{3,3}h_{4,1} - 48h_{3,1}h_{4,3} - 48h_{0,3}h_{7,1} \\
& + 120h_{1,2}^2h_{5,2} + 120h_{1,2}h_{3,2}^2 + 120h_{2,2}^2h_{3,2} + 630h_{1,2}^4h_{3,2} + 1260h_{1,2}^3h_{2,2}^2 \\
& - 280h_{1,2}^3h_{4,2} - 48h_{3,2}h_{4,2} - 48h_{2,2}h_{5,2} - 48h_{1,2}h_{6,2} + 429h_{1,2}^7 - 280h_{1,2}h_{2,2}^3 \\
& + 77220h_{0,3}^2h_{1,2}^3h_{2,1}^2 + 18018h_{0,3}h_{1,2}^5h_{2,1} - 9720h_{0,3}^3h_{2,1}^2h_{3,1} - 9720h_{0,3}^2h_{1,3}h_{2,1}^3 \\
& - 6930h_{0,3}h_{1,2}^4h_{3,1} + 3240h_{0,3}^2h_{1,2}h_{3,1}^2 + 3240h_{0,3}^2h_{2,1}^2h_{3,2} + 2520h_{0,3}h_{1,2}^3h_{4,1} \\
& + 1632h_{0,3}h_{1,4}h_{2,1}^3 - 720h_{0,3}^2h_{2,1}h_{5,1} - 720h_{0,3}^2h_{3,1}h_{4,1} - 840h_{0,3}h_{1,2}^2h_{5,1} \\
& - 720h_{0,3}h_{1,3}h_{3,1}^2 - 720h_{0,3}h_{2,1}^2h_{3,3} - 840h_{0,3}h_{2,2}^2h_{3,1} + 240h_{0,3}h_{1,2}h_{6,1} \\
& + 240h_{0,3}h_{2,1}h_{5,2} + 240h_{0,3}h_{2,2}h_{5,1} + 240h_{0,3}h_{3,1}h_{4,2} + 240h_{0,3}h_{3,2}h_{4,1} \\
& - 11088h_{0,4}h_{1,2}^3h_{2,1}^2 + 1632h_{0,4}h_{1,3}h_{2,1}^3 - 672h_{0,4}h_{1,2}h_{3,1}^2 - 672h_{0,4}h_{2,1}^2h_{3,2} \\
& + 192h_{0,4}h_{2,1}h_{5,1} + 192h_{0,4}h_{3,1}h_{4,1} + 1440h_{0,5}h_{1,2}h_{2,1}^3 - 480h_{0,5}h_{2,1}^2h_{3,1} \\
& - 6930h_{1,2}^4h_{1,3}h_{2,1} + 2520h_{1,2}^3h_{1,3}h_{3,1} + 3240h_{1,2}h_{1,3}^2h_{2,1}^2 - 840h_{1,2}^2h_{1,3}h_{4,1} \\
& - 720h_{1,3}^2h_{2,1}h_{3,1} - 720h_{1,3}h_{2,1}^2h_{2,3} - 840h_{1,3}h_{2,1}h_{2,2}^2 + 240h_{1,2}h_{1,3}h_{5,1} \\
& + 240h_{1,3}h_{2,1}h_{4,2} + 240h_{1,3}h_{2,2}h_{4,1} + 240h_{1,3}h_{3,1}h_{3,2} + 2520h_{1,2}^3h_{2,1}h_{2,3} \\
& - 840h_{1,2}^2h_{2,3}h_{3,1} + 240h_{1,2}h_{2,3}h_{4,1} + 240h_{2,1}h_{2,3}h_{3,2} + 240h_{2,2}h_{2,3}h_{3,1} \\
& + 3024h_{1,2}^2h_{1,4}h_{2,1}^2 - 672h_{1,4}h_{2,1}^2h_{2,2} + 192h_{1,4}h_{2,1}h_{4,1} - 840h_{1,2}^2h_{2,1}h_{3,3}
\end{aligned}$$

$$\begin{aligned}
& +240 h_{1,2} h_{3,1} h_{3,3} + 240 h_{2,1} h_{2,2} h_{3,3} - 672 h_{1,2} h_{2,1}^2 h_{2,4} + 192 h_{2,1} h_{2,4} h_{3,1} \\
& +240 h_{1,2} h_{2,1} h_{4,3} + 240 h_{1,2} h_{2,2} h_{4,2} - 840 h_{1,2}^2 h_{2,2} h_{3,2} - 35640 h_{0,3}^2 h_{1,2}^2 h_{2,1} h_{3,1} \\
& -35640 h_{0,3}^2 h_{1,2} h_{2,1}^2 h_{2,2} - 17952 h_{0,3} h_{0,4} h_{1,2} h_{2,1}^3 - 27720 h_{0,3} h_{1,2}^3 h_{2,1} h_{2,2} \\
& -35640 h_{0,3} h_{1,2}^2 h_{1,3} h_{2,1}^2 + 6480 h_{0,3}^2 h_{1,2} h_{2,1} h_{4,1} + 6480 h_{0,3}^2 h_{2,1} h_{2,2} h_{3,1} \\
& +4896 h_{0,3} h_{0,4} h_{2,1}^2 h_{3,1} + 7560 h_{0,3} h_{1,2}^2 h_{2,1} h_{3,2} + 7560 h_{0,3} h_{1,2}^2 h_{2,2} h_{3,1} \\
& +6480 h_{0,3} h_{1,2} h_{2,1}^2 h_{2,3} + 7560 h_{0,3} h_{1,2} h_{2,1} h_{2,2}^2 + 6480 h_{0,3} h_{1,3} h_{2,1}^2 h_{2,2} \\
& -1680 h_{0,3} h_{1,2} h_{2,1} h_{4,2} - 1680 h_{0,3} h_{1,2} h_{2,2} h_{4,1} - 1680 h_{0,3} h_{1,2} h_{3,1} h_{3,2} \\
& -1440 h_{0,3} h_{1,3} h_{2,1} h_{4,1} - 1680 h_{0,3} h_{2,1} h_{2,2} h_{3,2} - 1440 h_{0,3} h_{2,1} h_{2,3} h_{3,1} \\
& +6048 h_{0,4} h_{1,2}^2 h_{2,1} h_{3,1} + 6048 h_{0,4} h_{1,2} h_{2,1}^2 h_{2,2} - 1344 h_{0,4} h_{1,2} h_{2,1} h_{4,1} \\
& -1344 h_{0,4} h_{2,1} h_{2,2} h_{3,1} + 7560 h_{1,2}^2 h_{1,3} h_{2,1} h_{2,2} - 1680 h_{1,2} h_{1,3} h_{2,1} h_{3,2} \\
& -1680 h_{1,2} h_{1,3} h_{2,2} h_{3,1} - 1680 h_{1,2} h_{2,1} h_{2,2} h_{2,3} - 1344 h_{1,2} h_{1,4} h_{2,1} h_{3,1} \\
& +12960 h_{0,3} h_{1,2} h_{1,3} h_{2,1} h_{3,1} + 42120 h_{0,3}^3 h_{1,2} h_{2,1}^3) \\
\bar{a}_{8,1} = & \frac{1}{128} \sqrt{2} (1280 h_{2,5} h_{2,1}^3 + 384 h_{6,3} h_{2,1} - 128 h_{8,2} - 1920 h_{0,6} h_{2,1}^4 - 768 h_{4,4} h_{2,1}^2 \\
& +384 h_{2,2} h_{6,2} - 24024 h_{1,2}^6 h_{2,2} + 11088 h_{1,2}^5 h_{3,2} + 27720 h_{1,2}^4 h_{2,2}^2 - 960 h_{2,2}^2 h_{4,2} \\
& -960 h_{2,2} h_{3,2}^2 - 10080 h_{1,2}^2 h_{2,2}^3 - 5040 h_{1,2}^4 h_{4,2} + 3360 h_{1,2}^2 h_{3,2}^2 + 2240 h_{1,2}^3 h_{5,2} \\
& -25920 h_{0,3}^2 h_{2,2} h_{3,1}^2 + 13056 h_{0,4}^2 h_{2,1}^4 - 768 h_{0,4} h_{4,1}^2 + 2880 h_{1,3}^2 h_{3,1}^2 + 384 h_{1,3} h_{7,1} \\
& +2880 h_{2,1}^2 h_{2,3}^2 + 384 h_{2,3} h_{6,1} + 384 h_{3,3} h_{5,1} - 768 h_{2,4} h_{3,1}^2 + 384 h_{4,1} h_{4,3} \\
& +560 h_{2,2}^4 + 192 h_{4,2}^2 + 6435 h_{1,2}^8 - 20160 h_{1,2}^3 h_{2,2} h_{3,2} + 6720 h_{1,2}^2 h_{2,2} h_{4,2} \\
& +6720 h_{1,2} h_{2,2}^2 h_{3,2} - 1920 h_{1,2} h_{2,2} h_{5,2} - 1920 h_{1,2} h_{3,2} h_{4,2} - 20160 h_{1,2}^3 h_{2,1} h_{3,3} \\
& +6720 h_{1,2}^2 h_{3,1} h_{3,3} - 1920 h_{1,2} h_{3,3} h_{4,1} - 1920 h_{2,1} h_{3,2} h_{3,3} - 1920 h_{2,2} h_{3,1} h_{3,3} \\
& -24192 h_{1,2}^2 h_{2,1}^2 h_{2,4} + 5376 h_{2,1}^2 h_{2,2} h_{2,4} - 1536 h_{2,1} h_{2,4} h_{4,1} - 11520 h_{1,2} h_{1,5} h_{2,1}^3 \\
& +384 h_{3,1} h_{5,3} + 3840 h_{1,5} h_{2,1}^2 h_{3,1} + 6720 h_{1,2}^2 h_{2,1} h_{4,3} - 1920 h_{1,2} h_{3,1} h_{4,3} \\
& -1920 h_{2,1} h_{2,2} h_{4,3} + 5376 h_{1,2} h_{2,1}^2 h_{3,4} - 1536 h_{2,1} h_{3,1} h_{3,4} - 1920 h_{1,2} h_{2,1} h_{5,3} \\
& -20160 h_{0,3} h_{2,1} h_{2,2}^3 + 6720 h_{0,3} h_{2,2}^2 h_{4,1} - 1920 h_{0,3} h_{2,2} h_{6,1} - 25920 h_{0,3}^2 h_{2,1}^2 h_{4,2} \\
& -336960 h_{0,3}^3 h_{2,1}^3 h_{2,2} + 5760 h_{0,3}^2 h_{2,1} h_{6,1} + 142560 h_{0,3}^2 h_{2,1}^2 h_{2,2}^2 + 384 h_{0,3} h_{8,1} \\
& +77760 h_{0,3}^3 h_{2,1}^2 h_{4,1} + 77760 h_{0,3}^2 h_{2,1}^3 h_{2,3} - 185472 h_{0,3}^2 h_{0,4} h_{2,1}^4 + 384 h_{3,2} h_{5,2} \\
& +77760 h_{0,3}^3 h_{2,1} h_{3,1}^2 + 5760 h_{0,3}^2 h_{3,1} h_{5,1} + 2527200 h_{0,3}^3 h_{1,2}^2 h_{2,1}^3 - 960 h_{1,2}^2 h_{6,2} \\
& +2316600 h_{0,3}^2 h_{1,2}^4 h_{2,1}^2 + 142560 h_{0,3}^2 h_{1,2}^2 h_{3,1}^2 - 288288 h_{0,4} h_{1,2}^4 h_{2,1}^2 + 384 h_{1,2} h_{7,2} \\
& -24192 h_{0,4} h_{1,2}^2 h_{3,1}^3 - 13056 h_{0,4} h_{2,1}^3 h_{2,3} - 24192 h_{0,4} h_{2,1}^2 h_{2,2}^2 + 252720 h_{0,3}^4 h_{2,1}^4 \\
& +5376 h_{0,4} h_{2,1}^2 h_{4,2} + 5376 h_{0,4} h_{2,2} h_{3,1}^2 - 1536 h_{0,4} h_{2,1} h_{6,1} - 1536 h_{0,4} h_{3,1} h_{5,1} \\
& +63360 h_{0,5} h_{1,2}^2 h_{2,1}^3 - 11520 h_{0,5} h_{2,1}^3 h_{2,2} + 3840 h_{0,5} h_{2,1}^2 h_{4,1} + 3840 h_{0,5} h_{2,1} h_{3,1}^2)
\end{aligned}$$

$$\begin{aligned}
& -144144 h_{1,2}^5 h_{1,3} h_{2,1} + 55440 h_{1,2}^4 h_{1,3} h_{3,1} + 142560 h_{1,2}^2 h_{1,3}^2 h_{2,1}^2 + 2880 h_{0,3}^2 h_{4,1}^2 \\
& -20160 h_{1,2}^3 h_{1,3} h_{4,1} - 25920 h_{1,3}^2 h_{2,1}^2 h_{2,2} - 13056 h_{1,3} h_{1,4} h_{2,1}^3 + 6720 h_{1,2}^2 h_{1,3} h_{5,1} \\
& + 5760 h_{1,3}^2 h_{2,1} h_{4,1} + 5760 h_{1,3} h_{2,1}^2 h_{3,3} + 6720 h_{1,3} h_{2,2}^2 h_{3,1} - 1920 h_{1,2} h_{1,3} h_{6,1} \\
& - 1920 h_{1,3} h_{2,1} h_{5,2} - 1920 h_{1,3} h_{2,2} h_{5,1} - 1920 h_{1,3} h_{3,1} h_{4,2} - 1920 h_{1,3} h_{3,2} h_{4,1} \\
& + 55440 h_{1,2}^4 h_{2,1} h_{2,3} - 20160 h_{1,2}^3 h_{2,3} h_{3,1} + 6720 h_{1,2}^2 h_{2,3} h_{4,1} + 6720 h_{2,1} h_{2,2}^2 h_{2,3} \\
& - 1920 h_{1,2} h_{2,3} h_{5,1} - 1920 h_{2,1} h_{2,3} h_{4,2} - 1920 h_{2,2} h_{2,3} h_{4,1} - 1920 h_{2,3} h_{3,1} h_{3,2} \\
& + 88704 h_{1,2}^3 h_{1,4} h_{2,1}^2 + 5376 h_{1,2} h_{1,4} h_{3,1}^2 + 5376 h_{1,4} h_{2,1}^2 h_{3,2} - 1536 h_{1,4} h_{2,1} h_{5,1} \\
& - 1536 h_{1,4} h_{3,1} h_{4,1} - 13056 h_{0,3} h_{2,4} h_{2,1}^3 + 5760 h_{0,3} h_{4,3} h_{2,1}^2 + 24960 h_{0,3} h_{0,5} h_{2,1}^4 \\
& - 1920 h_{0,3} h_{6,2} h_{2,1} + 77760 h_{0,3} h_{1,3}^2 h_{2,1}^3 + 5760 h_{0,3} h_{2,3} h_{3,1}^2 + 6720 h_{0,3} h_{2,1} h_{3,2}^2 \\
& - 1920 h_{0,3} h_{3,2} h_{5,1} - 1920 h_{0,3} h_{3,1} h_{5,2} + 360360 h_{0,3} h_{1,2}^6 h_{2,1} - 144144 h_{0,3} h_{1,2}^5 h_{3,1} \\
& + 55440 h_{0,3} h_{1,2}^4 h_{4,1} - 20160 h_{0,3} h_{1,2}^3 h_{5,1} + 6720 h_{0,3} h_{1,2}^2 h_{6,1} - 1920 h_{0,3} h_{1,2} h_{7,1} \\
& - 1920 h_{0,3} h_{4,1} h_{4,2} - 60480 h_{1,2}^2 h_{1,3} h_{2,1} h_{3,2} - 60480 h_{1,2}^2 h_{1,3} h_{2,2} h_{3,1} \\
& - 60480 h_{1,2} h_{1,3} h_{2,1} h_{2,2}^2 + 13440 h_{1,2} h_{1,3} h_{2,1} h_{4,2} + 13440 h_{1,2} h_{1,3} h_{2,2} h_{4,1} \\
& + 13440 h_{1,2} h_{1,3} h_{3,1} h_{3,2} + 13440 h_{1,3} h_{2,1} h_{2,2} h_{3,2} + 11520 h_{1,3} h_{2,1} h_{2,3} h_{3,1} \\
& - 51840 h_{1,2} h_{1,3}^2 h_{2,1} h_{3,1} - 51840 h_{1,2} h_{1,3} h_{2,1}^2 h_{2,3} - 60480 h_{1,2}^2 h_{2,1} h_{2,2} h_{2,3} \\
& + 13440 h_{1,2} h_{2,1} h_{2,3} h_{3,2} + 13440 h_{1,2} h_{2,2} h_{2,3} h_{3,1} - 48384 h_{1,2}^2 h_{1,4} h_{2,1} h_{3,1} \\
& + 10752 h_{1,2} h_{1,4} h_{2,1} h_{4,1} + 10752 h_{1,4} h_{2,1} h_{2,2} h_{3,1} + 13440 h_{1,2} h_{2,1} h_{2,2} h_{3,3} \\
& - 48384 h_{1,2} h_{1,4} h_{2,1}^2 h_{2,2} + 10752 h_{1,2} h_{2,1} h_{2,4} h_{3,1} - 51840 h_{0,3}^2 h_{1,2} h_{3,1} h_{4,1} \\
& - 1010880 h_{0,3}^2 h_{1,2} h_{1,3} h_{2,1}^3 + 285120 h_{0,3}^2 h_{1,2}^2 h_{2,1} h_{4,1} - 51840 h_{0,3}^2 h_{1,2} h_{2,1} h_{5,1} \\
& - 51840 h_{0,3}^2 h_{2,1} h_{2,2} h_{4,1} + 233280 h_{0,3}^2 h_{1,3} h_{2,1}^2 h_{3,1} + 285120 h_{0,3}^2 h_{1,2} h_{2,1}^2 h_{3,2} \\
& - 51840 h_{0,3}^2 h_{2,1} h_{3,1} h_{3,2} - 1010880 h_{0,3}^3 h_{1,2} h_{2,1}^2 h_{3,1} - 1235520 h_{0,3}^2 h_{1,2}^3 h_{2,1} h_{3,1} \\
& - 1853280 h_{0,3}^2 h_{1,2}^2 h_{2,1}^2 h_{2,2} - 60480 h_{0,3} h_{1,2}^2 h_{2,2} h_{4,1} - 51840 h_{0,3} h_{1,2} h_{1,3} h_{3,1}^2 \\
& - 51840 h_{0,3} h_{1,2} h_{2,1}^2 h_{3,3} - 60480 h_{0,3} h_{1,2} h_{2,2}^2 h_{3,1} + 13440 h_{0,3} h_{1,2} h_{2,2} h_{5,1} \\
& + 13440 h_{0,3} h_{1,2} h_{3,1} h_{4,2} + 13440 h_{0,3} h_{2,1} h_{2,2} h_{4,2} + 143616 h_{0,3} h_{0,4} h_{2,1}^3 h_{2,2} \\
& + 11520 h_{0,3} h_{1,3} h_{3,1} h_{4,1} - 51840 h_{0,3} h_{2,1}^2 h_{2,2} h_{2,3} + 11520 h_{0,3} h_{2,1} h_{3,1} h_{3,3} \\
& - 39168 h_{0,3} h_{1,4} h_{2,1}^2 h_{3,1} + 11520 h_{0,3} h_{1,3} h_{2,1} h_{5,1} - 39168 h_{0,3} h_{0,4} h_{2,1} h_{3,1}^2 \\
& + 11520 h_{0,3} h_{2,1} h_{2,3} h_{4,1} - 39168 h_{0,3} h_{0,4} h_{2,1}^2 h_{4,1} + 285120 h_{0,3} h_{1,2}^2 h_{2,1}^2 h_{2,3} \\
& + 221760 h_{0,3} h_{1,2}^3 h_{2,1} h_{3,2} - 60480 h_{0,3} h_{1,2}^2 h_{3,1} h_{3,2} - 51840 h_{0,3} h_{1,3} h_{2,1}^2 h_{3,2} \\
& + 13440 h_{0,3} h_{1,2} h_{3,2} h_{4,1} + 13440 h_{0,3} h_{2,2} h_{3,1} h_{3,2} + 13440 h_{0,3} h_{1,2} h_{2,1} h_{5,2} \\
& - 933504 h_{0,3} h_{0,4} h_{1,2}^2 h_{2,1}^3 - 720720 h_{0,3} h_{1,2}^4 h_{2,1} h_{2,2} - 1235520 h_{0,3} h_{1,2}^3 h_{1,3} h_{2,1}^2 \\
& + 221760 h_{0,3} h_{1,2}^3 h_{2,2} h_{3,1} + 332640 h_{0,3} h_{1,2}^2 h_{2,1} h_{2,2}^2 + 143616 h_{0,3} h_{1,2} h_{1,4} h_{2,1}^3
\end{aligned}$$

$$\begin{aligned}
& -60480 h_{0,3} h_{1,2}^2 h_{2,1} h_{4,2} + 177408 h_{0,4} h_{1,2}^3 h_{2,1} h_{3,1} + 266112 h_{0,4} h_{1,2}^2 h_{2,1}^2 h_{2,2} \\
& + 143616 h_{0,4} h_{1,2} h_{1,3} h_{2,1}^3 - 48384 h_{0,4} h_{1,2}^2 h_{2,1} h_{4,1} + 430848 h_{0,3} h_{0,4} h_{1,2} h_{2,1}^2 h_{3,1} \\
& - 39168 h_{0,4} h_{1,3} h_{2,1}^2 h_{3,1} + 10752 h_{0,4} h_{1,2} h_{2,1} h_{5,1} - 103680 h_{0,3} h_{1,2} h_{1,3} h_{2,1} h_{4,1} \\
& + 10752 h_{0,4} h_{2,1} h_{2,2} h_{4,1} + 10752 h_{0,4} h_{2,1} h_{3,1} h_{3,2} - 120960 h_{0,3} h_{1,2} h_{2,1} h_{2,2} h_{3,2} \\
& + 221760 h_{1,2}^3 h_{1,3} h_{2,1} h_{2,2} + 570240 h_{0,3}^2 h_{1,2} h_{2,1} h_{2,2} h_{3,1} - 48384 h_{0,4} h_{1,2} h_{2,1}^2 h_{3,2} \\
& + 570240 h_{0,3} h_{1,2}^2 h_{1,3} h_{2,1} h_{3,1} + 570240 h_{0,3} h_{1,2} h_{1,3} h_{2,1}^2 h_{2,2} + 10752 h_{0,4} h_{1,2} h_{3,1} h_{4,1} \\
& - 103680 h_{0,3} h_{1,3} h_{2,1} h_{2,2} h_{3,1} - 103680 h_{0,3} h_{1,2} h_{2,1} h_{2,3} h_{3,1} - 34560 h_{0,5} h_{1,2} h_{2,1}^2 h_{3,1} \\
& - 96768 h_{0,4} h_{1,2} h_{2,1} h_{2,2} h_{3,1}) \\
\bar{a}_{2,2} &= 8 h_{1,2} h_{1,3} - 24 h_{0,3}^2 h_{2,1} + 8 h_{0,4} h_{2,1} + 8 h_{0,3} (-3 h_{1,2}^2 + h_{2,2}) - 2 h_{2,3} \\
\bar{a}_{2,3} &= 1/2 \sqrt{2} (-70 h_{0,4} h_{1,2}^2 + 10 h_{1,3}^2 + 20 h_{1,2} h_{1,4} + 210 h_{0,3}^3 h_{2,1} + 20 h_{0,5} h_{2,1} - 4 h_{2,4} \\
& + 35 h_{0,3}^2 (9 h_{1,2}^2 - 2 h_{2,2}) + 20 h_{0,4} h_{2,2} - 20 h_{0,3} (7 h_{0,4} h_{2,1} + 7 h_{1,2} h_{1,3} - h_{2,3})) \\
h_{10} &= -270 h_{1,2}^2 h_{2,1}^4 h_{0,3}^2 - 240 h_{1,2}^4 h_{2,1}^3 h_{0,3} + 40 h_{1,2}^2 h_{2,1}^4 h_{0,4} + 32 h_{1,2}^5 h_{2,1} h_{3,1} + 80 h_{1,2}^4 h_{2,1}^2 h_{2,2} \\
& + 80 h_{1,2}^3 h_{2,1}^3 h_{1,3} - 16 h_{1,2}^4 h_{2,1} h_{4,1} - 32 h_{1,2}^3 h_{2,1}^2 h_{3,2} - 24 h_{1,2}^2 h_{2,1}^3 h_{2,3} - 48 h_{1,2}^2 h_{2,1}^2 h_{2,2}^2 \\
& - 8 h_{1,2} h_{2,1}^4 h_{1,4} + 8 h_{1,2}^3 h_{2,1} h_{5,1} + 12 h_{1,2}^2 h_{2,1}^2 h_{4,2} + 6 h_{1,2} h_{2,1}^3 h_{3,3} - 4 h_{1,2}^2 h_{2,1} h_{6,1} \\
& - 4 h_{1,2} h_{2,1}^2 h_{5,2} + 2 h_{1,2} h_{2,1} h_{7,1} - 27 h_{0,3}^2 h_{2,1}^2 h_{3,1}^2 + 6 h_{0,3} h_{1,2} h_{3,1}^3 + 6 h_{0,4} h_{2,1}^2 h_{3,1}^2 \\
& + 8 h_{1,2}^3 h_{3,1} h_{4,1} + 12 h_{1,2}^2 h_{2,2} h_{3,1}^2 + 4 h_{1,4} h_{2,1}^3 h_{3,1} - 3 h_{0,3} h_{2,1}^2 h_{4,1} - 4 h_{1,2}^2 h_{3,1} h_{5,1} \\
& - 4 h_{1,2} h_{3,1}^2 h_{3,2} - 3 h_{2,1}^2 h_{3,1} h_{3,3} - 3 h_{2,1} h_{2,3} h_{3,1}^2 + 2 h_{1,2} h_{3,1} h_{6,1} + 2 h_{2,1} h_{3,1} h_{5,2} \\
& + 2 h_{2,2} h_{3,1} h_{5,1} + 2 h_{3,1} h_{3,2} h_{4,1} + 2 h_{1,2} h_{4,1} h_{5,1} + 45 h_{0,3}^2 h_{2,1}^4 h_{2,2} - 24 h_{0,3} h_{2,1}^3 h_{2,2}^2 \\
& - 8 h_{0,4} h_{2,1}^4 h_{2,2} + 6 h_{2,1}^3 h_{2,2} h_{2,3} - 4 h_{2,1}^2 h_{2,2} h_{4,2} - 4 h_{2,1} h_{2,2}^2 h_{4,1} + 2 h_{2,1} h_{2,2} h_{6,1} \\
& + 6 h_{1,3} h_{2,1}^3 h_{3,2} - 3 h_{1,3} h_{2,1}^2 h_{5,1} + 2 h_{2,1} h_{3,2} h_{5,1} + 12 h_{0,3} h_{0,4} h_{2,1}^5 - 18 h_{0,3}^2 h_{2,1}^3 h_{4,1} \\
& - 9 h_{0,3} h_{2,1}^4 h_{2,3} + 6 h_{0,3} h_{2,1}^3 h_{4,2} - 3 h_{0,3} h_{2,1}^2 h_{6,1} + 4 h_{0,4} h_{2,1}^3 h_{4,1} + 2 h_{2,1} h_{4,1} h_{4,2} \\
& - 3 h_{2,1}^2 h_{2,3} h_{4,1} - 3 h_{0,3} h_{2,1} h_{4,1}^2 - \frac{1}{2} h_{5,1}^2 - 144 h_{1,2} h_{2,1}^2 h_{0,3} h_{2,2} h_{3,1} - 27 h_{0,3}^3 h_{2,1}^5 \\
& + 36 h_{1,2} h_{2,1} h_{0,3} h_{3,1} h_{4,1} + 18 h_{1,3} h_{2,1}^2 h_{2,2} h_{3,1} - 6 h_{0,3} h_{2,1} h_{3,1} h_{5,1} - 8 h_{1,2} h_{2,2} h_{3,1} h_{4,1} \\
& - 6 h_{1,3} h_{2,1} h_{3,1} h_{4,1} - 8 h_{2,1} h_{2,2} h_{3,1} h_{3,2} + 18 h_{0,3} h_{2,1}^2 h_{2,2} h_{4,1} + 180 h_{1,2} h_{2,1}^3 h_{0,3}^2 h_{3,1} \\
& + 240 h_{1,2}^3 h_{2,1}^2 h_{0,3} h_{3,1} + 240 h_{1,2}^2 h_{2,1}^3 h_{0,3} h_{2,2} + 90 h_{1,2} h_{2,1}^4 h_{0,3} h_{1,3} - 72 h_{1,2}^2 h_{2,1}^2 h_{0,3} h_{4,1} \\
& - 72 h_{1,2}^2 h_{2,1} h_{0,3} h_{3,1}^2 - 48 h_{1,2} h_{2,1}^3 h_{0,3} h_{3,2} - 32 h_{1,2} h_{2,1}^3 h_{0,4} h_{3,1} - 64 h_{1,2}^3 h_{2,1} h_{2,2} h_{3,1} \\
& - 72 h_{1,2}^2 h_{2,1}^2 h_{1,3} h_{3,1} - 48 h_{1,2} h_{2,1}^3 h_{1,3} h_{2,2} + 18 h_{1,2} h_{2,1}^2 h_{0,3} h_{5,1} + 24 h_{1,2}^2 h_{2,1} h_{2,2} h_{4,1} \\
& + 24 h_{1,2}^2 h_{2,1} h_{3,1} h_{3,2} + 18 h_{1,2} h_{2,1}^2 h_{1,3} h_{4,1} + 18 h_{1,2} h_{2,1} h_{1,3} h_{3,1}^2 + 24 h_{1,2} h_{2,1}^2 h_{2,2} h_{3,2} \\
& + 18 h_{1,2} h_{2,1}^2 h_{2,3} h_{3,1} + 24 h_{1,2} h_{2,1} h_{2,2}^2 h_{3,1} - 8 h_{1,2} h_{2,1} h_{2,2} h_{5,1} - 8 h_{1,2} h_{2,1} h_{3,1} h_{4,2} \\
& - 8 h_{1,2} h_{2,1} h_{3,2} h_{4,1} - 36 h_{0,3} h_{1,3} h_{2,1}^3 h_{3,1} + 18 h_{0,3} h_{2,1}^2 h_{3,1} h_{3,2} + 18 h_{0,3} h_{2,1} h_{2,2} h_{3,1}^2 \\
& + h_{2,4} h_{2,1}^4 - h_{8,1} h_{2,1} - h_{4,3} h_{2,1}^3 - h_{0,5} h_{2,1}^5 - 32 h_{1,2}^6 h_{2,1}^2 - 8 h_{1,2}^4 h_{3,1}^2 - h_{1,3} h_{3,1}^3
\end{aligned}$$

$$\begin{aligned}
& -2h_{2,2}^2h_{3,1}^2 + h_{3,1}^2h_{4,2} - h_{3,1}h_{7,1} - 2h_{1,2}^2h_{4,1}^2 + 4h_{2,1}^2h_{2,2}^3 - \frac{9}{2}h_{1,3}^2h_{2,1}^4 - 2h_{2,1}^2h_{3,2}^2 \\
& + h_{2,2}^2h_{4,1}^2 - h_{4,1}h_{6,1} + h_{6,2}h_{2,1}^2 + h_{10,0}, \\
h_{11} = & -h_{9,1}h_{2,1} - h_{5,3}h_{2,1}^3 + h_{7,2}h_{2,1}^2 + h_{3,4}h_{2,1}^4 - h_{1,5}h_{2,1}^5 - h_{5,1}h_{6,1} + h_{1,2}h_{5,1}^2 + 4h_{1,2}^3h_{4,1}^2 \\
& + h_{3,2}h_{4,1}^2 - h_{4,1}h_{7,1} - h_{2,3}h_{3,1}^3 + 16h_{1,2}^5h_{3,1}^2 + h_{3,1}^2h_{5,2} - h_{3,1}h_{8,1} + 64h_{1,2}^7h_{2,1}^2 \\
& - 3h_{1,3}h_{2,1}^2h_{6,1} + 2h_{2,1}h_{3,2}h_{6,1} + 12h_{0,4}h_{1,3}h_{2,1}^5 - 8h_{0,4}h_{2,1}^4h_{3,2} - 9h_{1,3}h_{2,1}^4h_{2,3} \\
& + 4h_{0,4}h_{2,1}^3h_{5,1} + 6h_{1,3}h_{2,1}^3h_{4,2} + 6h_{2,1}^3h_{2,3}h_{3,2} - 3h_{2,1}^2h_{2,3}h_{5,1} - 4h_{2,1}^2h_{3,2}h_{4,2} \\
& + 2h_{2,1}h_{4,2}h_{5,1} - 32h_{1,2}h_{2,1}^2h_{2,2}^3 - 24h_{1,3}h_{2,1}^3h_{2,2}^2 - 8h_{1,4}h_{2,1}^4h_{2,2} + 6h_{0,3}h_{2,1}^3h_{5,2} \\
& + 8h_{1,2}^3h_{2,1}h_{6,1} + 12h_{1,2}^2h_{2,1}^2h_{5,2} + 4h_{1,4}h_{2,1}^3h_{4,1} + 6h_{2,1}^3h_{2,2}h_{3,3} + 12h_{2,1}^2h_{2,2}^2h_{3,2} \\
& - 3h_{0,3}h_{2,1}^2h_{7,1} - 4h_{1,2}^2h_{2,1}h_{7,1} - 4h_{1,2}^2h_{4,1}h_{5,1} - 4h_{1,2}h_{2,2}h_{4,1}^2 - 3h_{1,3}h_{2,1}h_{4,1}^2 \\
& - 4h_{2,1}^2h_{2,2}h_{5,2} - 3h_{2,1}^2h_{3,3}h_{4,1} - 4h_{2,1}h_{2,2}^2h_{5,1} + 2h_{1,2}h_{4,1}h_{6,1} + 2h_{2,1}h_{2,2}h_{7,1} \\
& + 2h_{2,1}h_{4,1}h_{5,2} + 2h_{2,2}h_{4,1}h_{5,1} + 45h_{1,2}h_{1,3}^2h_{2,1}^4 + 12h_{1,2}h_{2,1}^2h_{3,2}^2 + 6h_{1,2}h_{2,1}^3h_{4,3} \\
& + 10h_{0,5}h_{1,2}h_{2,1}^5 - 4h_{1,2}h_{2,1}^2h_{6,2} - 8h_{1,2}h_{2,1}^4h_{2,4} + 2h_{1,2}h_{2,1}h_{8,1} - 18h_{3,1}h_{1,3}^2h_{2,1}^3 \\
& - 135h_{3,1}h_{0,3}^3h_{2,1}^4 + 2h_{3,1}h_{4,1}h_{4,2} + 8h_{3,1}h_{2,1}h_{2,2}^3 - 4h_{3,1}h_{2,2}^2h_{4,1} + 2h_{3,1}h_{2,2}h_{6,1} \\
& - 64h_{3,1}h_{1,2}^6h_{2,1} - 16h_{3,1}h_{1,2}^4h_{4,1} + 8h_{3,1}h_{1,2}^3h_{5,1} - 4h_{3,1}h_{1,2}^2h_{6,1} + 2h_{3,1}h_{1,2}h_{7,1} \\
& - 3h_{3,1}h_{0,3}h_{4,1}^2 - 4h_{3,1}h_{2,1}h_{3,2}^2 + 2h_{3,1}h_{3,2}h_{5,1} - 3h_{3,1}h_{4,3}h_{2,1}^2 - 5h_{3,1}h_{0,5}h_{2,1}^4 \\
& + 2h_{3,1}h_{6,2}h_{2,1} + 4h_{3,1}h_{2,4}h_{2,1}^3 - 18h_{0,3}^2h_{2,1}h_{3,1}^3 - 24h_{0,3}h_{1,2}^2h_{3,1}^3 + 6h_{0,3}h_{2,2}h_{3,1}^3 \\
& - 3h_{0,3}h_{3,1}^2h_{5,1} + 6h_{1,4}h_{2,1}^2h_{3,1}^2 - 3h_{2,1}h_{3,1}^2h_{3,3} + 4h_{0,4}h_{2,1}h_{3,1}^3 - 81h_{0,3}^2h_{1,3}h_{2,1}^5 \\
& - 32h_{1,2}^3h_{2,2}h_{3,1}^2 + 12h_{1,2}h_{2,2}^2h_{3,1}^2 - 4h_{2,2}h_{3,1}^2h_{3,2} + 12h_{1,2}^2h_{3,1}^2h_{3,2} + 12h_{0,3}h_{1,4}h_{2,1}^5 \\
& - 3h_{1,3}h_{3,1}^2h_{4,1} + 378h_{0,3}^3h_{1,2}h_{2,1}^5 + 1260h_{0,3}^2h_{1,2}^3h_{2,1}^4 + 672h_{0,3}h_{1,2}^5h_{2,1}^3 - 4h_{1,2}h_{3,1}^2h_{4,2} \\
& - 160h_{0,4}h_{1,2}^3h_{2,1}^4 - 192h_{1,2}^5h_{2,1}^2h_{2,2} - 240h_{1,2}^4h_{1,3}h_{2,1}^3 + 45h_{0,3}^2h_{2,1}^4h_{3,2} + 6h_{1,2}h_{1,3}h_{3,1}^3 \\
& + 32h_{1,2}^5h_{2,1}h_{4,1} + 80h_{1,2}^4h_{2,1}^2h_{3,2} + 80h_{1,2}^3h_{2,1}^3h_{2,3} + 160h_{1,2}^3h_{2,1}^2h_{2,2}^2 + 40h_{1,2}^2h_{1,4}h_{2,1}^4 \\
& - 18h_{0,3}^2h_{2,1}^3h_{5,1} - 9h_{0,3}h_{2,1}^4h_{3,3} - 16h_{1,2}^4h_{2,1}h_{5,1} - 32h_{1,2}^3h_{2,1}^2h_{4,2} - 24h_{1,2}^2h_{2,1}^3h_{3,3} \\
& - 8h_{2,1}h_{2,2}h_{3,2}h_{4,1} - 8h_{1,2}h_{2,1}h_{3,2}h_{5,1} - 48h_{1,2}h_{1,3}h_{2,1}^3h_{3,2} + 18h_{1,2}h_{1,3}h_{2,1}^2h_{5,1} \\
& + 240h_{0,3}h_{1,2}^2h_{2,1}^3h_{3,2} + 90h_{0,3}h_{1,2}h_{2,1}^4h_{2,3} + 240h_{0,3}h_{1,2}h_{2,1}^3h_{2,2}^2 + 90h_{0,3}h_{1,3}h_{2,1}^4h_{2,2} \\
& + 80h_{0,4}h_{1,2}h_{2,1}^4h_{2,2} + 240h_{1,2}^2h_{1,3}h_{2,1}^3h_{2,2} - 72h_{0,3}h_{1,2}^2h_{2,1}^2h_{5,1} - 48h_{0,3}h_{1,2}h_{2,1}^3h_{4,2} \\
& - 36h_{0,3}h_{1,3}h_{2,1}^3h_{4,1} - 48h_{0,3}h_{2,1}^3h_{2,2}h_{3,2} - 32h_{0,4}h_{1,2}h_{2,1}^3h_{4,1} - 64h_{1,2}^3h_{2,1}h_{2,2}h_{4,1} \\
& - 72h_{1,2}^2h_{1,3}h_{2,1}^2h_{4,1} - 96h_{1,2}^2h_{2,1}^2h_{2,2}h_{3,2} - 48h_{1,2}h_{2,1}^3h_{2,2}h_{2,3} + 18h_{0,3}h_{1,2}h_{2,1}^2h_{6,1} \\
& + 18h_{0,3}h_{1,2}h_{2,1}h_{4,1}^2 + 18h_{0,3}h_{2,1}^2h_{2,2}h_{5,1} + 18h_{0,3}h_{2,1}^2h_{3,2}h_{4,1} + 24h_{1,2}^2h_{2,1}h_{2,2}h_{5,1} \\
& + 24h_{1,2}^2h_{2,1}h_{3,2}h_{4,1} + 24h_{1,2}h_{2,1}^2h_{2,2}h_{4,2} + 18h_{1,2}h_{2,1}^2h_{2,3}h_{4,1} + 24h_{1,2}h_{2,1}h_{2,2}^2h_{4,1} \\
& + 18h_{1,3}h_{2,1}^2h_{2,2}h_{4,1} - 6h_{0,3}h_{2,1}h_{4,1}h_{5,1} - 8h_{1,2}h_{2,1}h_{2,2}h_{6,1} - 8h_{1,2}h_{2,1}h_{4,1}h_{4,2} \\
& - 54h_{0,3}h_{1,3}h_{2,1}^2h_{3,1}^2 - 72h_{1,2}^2h_{1,3}h_{2,1}h_{3,1}^2 + 18h_{1,3}h_{2,1}h_{2,2}h_{3,1}^2 + 18h_{1,2}h_{2,1}h_{2,3}h_{3,1}^2
\end{aligned}$$

$$\begin{aligned}
& +270 h_{0,3}^2 h_{1,2} h_{2,1}^2 h_{3,1}^2 + 240 h_{0,3} h_{1,2}^3 h_{2,1} h_{3,1}^2 + 18 h_{0,3} h_{1,2} h_{3,1}^2 h_{4,1} + 18 h_{0,3} h_{2,1} h_{3,1}^2 h_{3,2} \\
& -48 h_{0,4} h_{1,2} h_{2,1}^2 h_{3,1}^2 + 18 h_{3,1} h_{2,1}^2 h_{2,2} h_{2,3} - 6 h_{3,1} h_{2,1} h_{2,3} h_{4,1} - 1080 h_{3,1} h_{0,3}^2 h_{1,2}^2 h_{2,1}^3 \\
& -720 h_{3,1} h_{0,3} h_{1,2}^4 h_{2,1}^2 + 180 h_{3,1} h_{0,3}^2 h_{2,1}^3 h_{2,2} + 60 h_{3,1} h_{0,3} h_{0,4} h_{2,1}^4 - 54 h_{3,1} h_{0,3}^2 h_{2,1}^2 h_{4,1} \\
& -72 h_{3,1} h_{0,3} h_{2,1}^2 h_{2,2}^2 + 18 h_{3,1} h_{0,3} h_{2,1}^2 h_{4,2} - 6 h_{3,1} h_{0,3} h_{2,1} h_{6,1} + 160 h_{3,1} h_{0,4} h_{1,2}^2 h_{2,1}^3 \\
& -32 h_{3,1} h_{0,4} h_{2,1}^3 h_{2,2} + 12 h_{3,1} h_{0,4} h_{2,1}^2 h_{4,1} - 32 h_{3,1} h_{1,2} h_{1,4} h_{2,1}^3 + 18 h_{3,1} h_{1,2} h_{2,1}^2 h_{3,3} \\
& +24 h_{3,1} h_{1,2}^2 h_{2,1} h_{4,2} - 8 h_{3,1} h_{2,1} h_{2,2} h_{4,2} + 160 h_{3,1} h_{1,2}^4 h_{2,1} h_{2,2} - 96 h_{3,1} h_{1,2}^2 h_{2,1} h_{2,2}^2 \\
& +24 h_{3,1} h_{1,2}^2 h_{2,2} h_{4,1} - 8 h_{3,1} h_{1,2} h_{2,2} h_{5,1} - 64 h_{3,1} h_{1,2}^3 h_{2,1} h_{3,2} + 240 h_{0,3} h_{1,2}^3 h_{2,1}^2 h_{4,1} \\
& -8 h_{3,1} h_{1,2} h_{3,2} h_{4,1} + 240 h_{3,1} h_{1,2}^3 h_{1,3} h_{2,1}^2 + 18 h_{3,1} h_{1,3} h_{2,1}^2 h_{3,2} - 6 h_{3,1} h_{1,3} h_{2,1} h_{5,1} \\
& -36 h_{3,1} h_{0,3} h_{2,1}^3 h_{2,3} - 72 h_{3,1} h_{1,2}^2 h_{2,1}^2 h_{2,3} - 540 h_{0,3}^2 h_{1,2} h_{2,1}^4 h_{2,2} - 144 h_{0,3} h_{0,4} h_{1,2} h_{2,1}^5 \\
& -960 h_{0,3} h_{1,2}^3 h_{2,1}^3 h_{2,2} - 540 h_{0,3} h_{1,2}^2 h_{1,3} h_{2,1}^4 + 180 h_{0,3}^2 h_{1,2} h_{2,1}^3 h_{4,1} - 8 h_{3,1} h_{1,2} h_{2,1} h_{5,2} \\
& +48 h_{3,1} h_{1,2} h_{2,1} h_{2,2} h_{3,2} + 360 h_{3,1} h_{0,3} h_{1,2} h_{1,3} h_{2,1}^3 - 144 h_{3,1} h_{1,2} h_{1,3} h_{2,1}^2 h_{2,2} \\
& +36 h_{3,1} h_{1,2} h_{1,3} h_{2,1} h_{4,1} + 720 h_{3,1} h_{0,3} h_{1,2}^2 h_{2,1}^2 h_{2,2} - 144 h_{3,1} h_{0,3} h_{1,2}^2 h_{2,1} h_{4,1} \\
& -144 h_{3,1} h_{0,3} h_{1,2} h_{2,1}^2 h_{3,2} + 36 h_{3,1} h_{0,3} h_{1,2} h_{2,1} h_{5,1} + 36 h_{3,1} h_{0,3} h_{2,1} h_{2,2} h_{4,1} \\
& -144 h_{0,3} h_{1,2} h_{2,1} h_{2,2} h_{3,1}^2 - 144 h_{0,3} h_{1,2} h_{2,1}^2 h_{2,2} h_{4,1} + h_{11,0}, \\
h_{12} = & -4 h_{1,2} h_{3,2} h_{4,1}^2 + 2 h_{1,2} h_{4,1} h_{7,1} + 160 h_{1,2}^2 h_{2,1}^2 h_{2,2}^3 - 16 h_{1,2}^4 h_{2,1} h_{6,1} - 32 h_{1,2}^3 h_{2,1}^2 h_{5,2} \\
& +8 h_{1,2}^3 h_{2,1} h_{7,1} + 8 h_{1,2}^3 h_{4,1} h_{5,1} + 12 h_{1,2}^2 h_{2,2} h_{4,1}^2 - 4 h_{1,2}^2 h_{4,1} h_{6,1} + 128 h_{3,1} h_{1,2}^7 h_{2,1} \\
& +32 h_{3,1} h_{1,2}^5 h_{4,1} - 16 h_{3,1} h_{1,2}^4 h_{5,1} + 8 h_{3,1} h_{1,2}^3 h_{6,1} - 4 h_{3,1} h_{1,2}^2 h_{7,1} + 80 h_{0,3} h_{1,2}^3 h_{3,1}^3 \\
& +12 h_{1,2}^2 h_{3,1}^2 h_{4,2} + 80 h_{1,2}^4 h_{2,2} h_{3,1}^2 - 48 h_{1,2}^2 h_{2,2}^2 h_{3,1}^2 - 32 h_{1,2}^3 h_{3,1}^2 h_{3,2} - 24 h_{1,2}^2 h_{1,3} h_{3,1}^3 \\
& -3024 h_{0,3}^3 h_{1,2}^2 h_{2,1}^5 - 5040 h_{0,3}^2 h_{1,2}^4 h_{2,1}^4 - 1792 h_{0,3} h_{1,2}^6 h_{2,1}^3 + 560 h_{0,4} h_{1,2}^4 h_{2,1}^4 \\
& +448 h_{1,2}^6 h_{2,1}^2 h_{2,2} + 672 h_{1,2}^5 h_{1,3} h_{2,1}^3 - 64 h_{1,2}^6 h_{2,1} h_{4,1} - 192 h_{1,2}^5 h_{2,1}^2 h_{3,2} + h_{4,1}^2 h_{4,2} \\
& -240 h_{1,2}^4 h_{2,1}^3 h_{2,3} - 480 h_{1,2}^4 h_{2,1}^2 h_{2,2}^2 - 160 h_{1,2}^3 h_{1,4} h_{2,1}^4 + 32 h_{1,2}^5 h_{2,1} h_{5,1} - h_{4,1} h_{8,1} \\
& +80 h_{1,2}^4 h_{2,1}^2 h_{4,2} + 80 h_{1,2}^3 h_{2,1}^3 h_{3,3} + 6 h_{1,2} h_{2,3} h_{3,1}^3 - 4 h_{1,2} h_{3,1}^2 h_{5,2} + 2 h_{1,2} h_{3,1} h_{8,1} \\
& -270 h_{1,2}^2 h_{1,3}^2 h_{2,1}^4 - 48 h_{1,2}^2 h_{2,1}^2 h_{3,2}^2 - 24 h_{1,2}^2 h_{2,1}^3 h_{4,3} - 60 h_{0,5} h_{1,2}^2 h_{2,1}^5 - \frac{9}{2} h_{0,3}^2 h_{3,1}^4 \\
& +12 h_{1,2}^2 h_{2,1}^2 h_{6,2} + 40 h_{1,2}^2 h_{2,1}^4 h_{2,4} - 4 h_{1,2}^2 h_{2,1} h_{8,1} + 6 h_{1,2} h_{2,1}^3 h_{5,3} + 10 h_{1,2} h_{2,1}^5 h_{1,5} \\
& -4 h_{1,2} h_{2,1}^2 h_{7,2} - 8 h_{1,2} h_{2,1}^4 h_{3,4} + 2 h_{1,2} h_{2,1} h_{9,1} - 4 h_{2,2}^2 h_{3,1} h_{5,1} + 6 h_{2,2} h_{1,3} h_{3,1}^3 \\
& -4 h_{2,2} h_{3,1}^2 h_{4,2} + 2 h_{2,2} h_{3,1} h_{7,1} + 45 h_{2,1}^4 h_{2,2} h_{1,3}^2 + 378 h_{2,1}^5 h_{2,2} h_{0,3}^3 + 8 h_{2,1} h_{2,2}^3 h_{4,1} \\
& -4 h_{2,1} h_{2,2}^2 h_{6,1} + 12 h_{2,1}^2 h_{2,2} h_{3,2}^2 + 6 h_{2,1}^3 h_{2,2} h_{4,3} + 10 h_{2,1}^5 h_{2,2} h_{0,5} - 4 h_{2,1}^2 h_{2,2} h_{6,2} \\
& -8 h_{2,1}^4 h_{2,2} h_{2,4} - 24 h_{2,1}^3 h_{2,2}^2 h_{2,3} - 270 h_{2,1}^4 h_{2,2}^2 h_{0,3}^2 + 80 h_{2,1}^3 h_{2,2}^3 h_{0,3} + 40 h_{2,1}^4 h_{2,2}^2 h_{0,4} \\
& +12 h_{2,1}^2 h_{2,2}^2 h_{4,2} + 2 h_{2,1} h_{2,2} h_{8,1} - 81 h_{1,3}^2 h_{2,1}^5 h_{0,3} + 12 h_{1,3} h_{2,1}^5 h_{1,4} - 18 h_{1,3}^3 h_{2,1}^3 h_{4,1} \\
& -27 h_{1,3}^2 h_{2,1}^2 h_{3,1}^2 - 9 h_{1,3} h_{2,1}^4 h_{3,3} + 6 h_{1,3} h_{2,1}^3 h_{5,2} - 3 h_{1,3} h_{2,1}^2 h_{7,1} - 27 h_{0,3}^2 h_{2,1}^2 h_{4,1}^2 \\
& -24 h_{0,3} h_{2,1}^3 h_{3,2}^2 - 9 h_{0,3} h_{2,1}^4 h_{4,3} - 15 h_{0,3} h_{2,1}^6 h_{0,5} + 6 h_{0,3} h_{2,1}^3 h_{6,2} + 12 h_{0,3} h_{2,1}^5 h_{2,4}
\end{aligned}$$

$$\begin{aligned}
& -270 h_{0,3}^3 h_{2,1}^3 h_{3,1}^2 + 126 h_{0,3}^2 h_{2,1}^6 h_{0,4} - 135 h_{0,3}^3 h_{2,1}^4 h_{4,1} + 45 h_{0,3}^2 h_{2,1}^4 h_{4,2} + h_{3,1}^2 h_{6,2} \\
& -18 h_{0,3}^2 h_{2,1}^3 h_{6,1} - 81 h_{0,3}^2 h_{2,1}^5 h_{2,3} - 3 h_{0,3} h_{2,1}^2 h_{8,1} - 8 h_{2,1}^4 h_{3,2} h_{1,4} + 6 h_{2,1}^3 h_{3,2} h_{3,3} \\
& -4 h_{2,1}^2 h_{3,2} h_{5,2} - 4 h_{2,1} h_{3,2}^2 h_{4,1} + 2 h_{2,1} h_{3,2} h_{7,1} - 3 h_{3,1} h_{5,3} h_{2,1}^2 - 5 h_{3,1} h_{1,5} h_{2,1}^4 \\
& + 2 h_{3,1} h_{7,2} h_{2,1} + 4 h_{3,1} h_{3,4} h_{2,1}^3 + 2 h_{3,1} h_{4,1} h_{5,2} + 2 h_{3,1} h_{4,2} h_{5,1} + 2 h_{3,1} h_{3,2} h_{6,1} \\
& -3 h_{3,1} h_{1,3} h_{4,1}^2 + 6 h_{0,3} h_{3,1}^3 h_{3,2} - 3 h_{0,3} h_{3,1}^2 h_{6,1} + 6 h_{2,1}^2 h_{2,4} h_{3,1}^2 - 10 h_{0,5} h_{2,1}^3 h_{3,1}^2 \\
& + 4 h_{1,4} h_{2,1} h_{3,1}^3 - 3 h_{2,3} h_{3,1}^2 h_{4,1} - 3 h_{1,3} h_{3,1}^2 h_{5,1} - 3 h_{2,1} h_{3,1}^2 h_{4,3} + 4 h_{1,4} h_{2,1}^3 h_{5,1} \\
& -3 h_{0,3} h_{2,1} h_{5,1}^2 - 3 h_{2,1}^2 h_{3,3} h_{5,1} + 2 h_{1,2} h_{5,1} h_{6,1} + 2 h_{2,1} h_{5,1} h_{5,2} + 2 h_{3,2} h_{4,1} h_{5,1} \\
& -5 h_{0,5} h_{2,1}^4 h_{4,1} + 6 h_{0,4} h_{2,1}^2 h_{4,1}^2 + 4 h_{2,1}^3 h_{2,4} h_{4,1} - 3 h_{2,1}^2 h_{4,1} h_{4,3} - 3 h_{2,1} h_{2,3} h_{4,1}^2 \\
& + 2 h_{2,1} h_{4,1} h_{6,2} + 2 h_{2,2} h_{4,1} h_{6,1} - 8 h_{0,4} h_{2,1}^4 h_{4,2} + 6 h_{2,1}^3 h_{2,3} h_{4,2} + 2 h_{2,1} h_{4,2} h_{6,1} \\
& + 12 h_{0,4} h_{2,1}^5 h_{2,3} + 4 h_{0,4} h_{2,1}^3 h_{6,1} - 3 h_{2,1}^2 h_{2,3} h_{6,1} - 36 h_{1,3} h_{2,1}^3 h_{2,3} h_{3,1} - 2 h_{3,1}^2 h_{3,1}^2 h_{2,2} \\
& + 18 h_{1,3} h_{2,1}^2 h_{3,1} h_{4,2} + 18 h_{1,3} h_{2,1}^2 h_{3,2} h_{4,1} + 180 h_{0,3}^2 h_{2,1}^3 h_{3,1} h_{3,2} + 18 h_{0,3} h_{2,1}^2 h_{4,1} h_{4,2} \\
& -54 h_{0,3} h_{2,1}^2 h_{2,3} h_{3,1}^2 + 18 h_{0,3} h_{2,1}^2 h_{3,2} h_{5,1} + 18 h_{0,3} h_{2,1}^2 h_{3,1} h_{5,2} - 36 h_{0,3} h_{2,1}^3 h_{2,3} h_{4,1} \\
& -54 h_{0,3}^2 h_{2,1}^2 h_{3,1} h_{5,1} + 60 h_{0,3} h_{2,1}^4 h_{0,4} h_{4,1} + 60 h_{0,3} h_{2,1}^4 h_{1,4} h_{3,1} - 36 h_{0,3} h_{2,1}^3 h_{3,1} h_{3,3} \\
& + 120 h_{0,3} h_{2,1}^3 h_{0,4} h_{3,1}^2 - 72 h_{2,1}^2 h_{2,2}^2 h_{0,3} h_{4,1} - 8 h_{2,1} h_{2,2} h_{4,1} h_{4,2} + 18 h_{2,1} h_{2,2} h_{0,3} h_{4,1}^2 \\
& -8 h_{2,1} h_{2,2} h_{3,2} h_{5,1} + 18 h_{2,1}^2 h_{2,2} h_{2,3} h_{4,1} - 144 h_{2,1}^5 h_{2,2} h_{0,3} h_{0,4} + 180 h_{2,1}^3 h_{2,2} h_{0,3}^2 h_{4,1} \\
& -48 h_{2,1}^3 h_{2,2} h_{0,3} h_{4,2} + 18 h_{2,1}^2 h_{2,2} h_{0,3} h_{6,1} - 32 h_{2,1}^3 h_{2,2} h_{0,4} h_{4,1} - 48 h_{2,1}^3 h_{2,2} h_{1,3} h_{3,2} \\
& + 18 h_{2,1}^2 h_{2,2} h_{1,3} h_{5,1} + 90 h_{2,1}^4 h_{2,2} h_{0,3} h_{2,3} - 405 h_{1,3} h_{2,1}^4 h_{0,3}^2 h_{3,1} + 90 h_{1,3} h_{2,1}^4 h_{0,3} h_{3,2} \\
& + 60 h_{1,3} h_{2,1}^4 h_{0,4} h_{3,1} - 36 h_{1,3} h_{2,1}^3 h_{0,3} h_{5,1} + 270 h_{2,2} h_{0,3}^2 h_{2,1}^2 h_{3,1}^2 - 48 h_{2,2} h_{0,4} h_{2,1}^2 h_{3,1}^2 \\
& -32 h_{2,2} h_{1,4} h_{2,1}^3 h_{3,1} + 18 h_{2,2} h_{0,3} h_{3,1}^2 h_{4,1} + 18 h_{2,2} h_{2,1}^2 h_{3,1} h_{3,3} + 18 h_{2,2} h_{2,1} h_{2,3} h_{3,1}^2 \\
& -8 h_{2,2} h_{2,1} h_{3,1} h_{5,2} - 8 h_{2,2} h_{3,1} h_{3,2} h_{4,1} - 72 h_{1,3} h_{2,1}^2 h_{2,2}^2 h_{3,1} + 24 h_{2,1} h_{2,2}^2 h_{3,1} h_{3,2} \\
& -72 h_{0,3} h_{2,1} h_{2,2}^2 h_{3,1}^2 - 288 h_{1,2} h_{3,1} h_{0,3} h_{2,1} h_{2,2} h_{4,1} + 24 h_{1,2} h_{2,1}^2 h_{3,2} h_{4,2} - h_{3,1}^3 h_{3,3} \\
& + 90 h_{1,2} h_{2,1}^4 h_{1,3} h_{2,3} - 48 h_{1,2} h_{2,1}^3 h_{2,3} h_{3,2} + 18 h_{1,2} h_{2,1}^2 h_{2,3} h_{5,1} - 144 h_{1,2} h_{2,1}^5 h_{0,4} h_{1,3} \\
& + 80 h_{1,2} h_{2,1}^4 h_{0,4} h_{3,2} - 32 h_{1,2} h_{2,1}^3 h_{0,4} h_{5,1} - 48 h_{1,2} h_{2,1}^3 h_{1,3} h_{4,2} + 18 h_{1,2} h_{2,1}^2 h_{1,3} h_{6,1} \\
& -8 h_{1,2} h_{2,1} h_{4,2} h_{5,1} - 8 h_{1,2} h_{2,1} h_{3,2} h_{6,1} - 6 h_{0,3} h_{2,1} h_{4,1} h_{6,1} - 6 h_{1,3} h_{2,1} h_{4,1} h_{5,1} \\
& -6 h_{3,1} h_{0,3} h_{4,1} h_{5,1} + 12 h_{3,1} h_{1,4} h_{2,1}^2 h_{4,1} - 6 h_{3,1} h_{2,1} h_{2,3} h_{5,1} + 12 h_{3,1} h_{0,4} h_{2,1}^2 h_{5,1} \\
& -6 h_{3,1} h_{1,3} h_{2,1} h_{6,1} - 6 h_{3,1} h_{2,1} h_{3,3} h_{4,1} - 54 h_{0,3}^2 h_{2,1} h_{3,1}^2 h_{4,1} - 36 h_{0,3} h_{2,1} h_{1,3} h_{3,1}^3 \\
& + 18 h_{0,3} h_{2,1} h_{3,1}^2 h_{4,2} - 6 h_{0,3} h_{2,1} h_{3,1} h_{7,1} + 12 h_{0,4} h_{2,1} h_{3,1}^2 h_{4,1} - 32 h_{2,1}^3 h_{3,2} h_{0,4} h_{3,1} \\
& + 18 h_{2,1} h_{3,2} h_{1,3} h_{3,1}^2 + 18 h_{2,1}^2 h_{3,2} h_{2,3} h_{3,1} - 8 h_{2,1} h_{3,2} h_{3,1} h_{4,2} - 8 h_{1,2} h_{3,1} h_{3,2} h_{5,1} \\
& + 18 h_{1,2} h_{3,1} h_{4,3} h_{2,1}^2 + 50 h_{1,2} h_{3,1} h_{0,5} h_{2,1}^4 - 8 h_{1,2} h_{3,1} h_{6,2} h_{2,1} - 32 h_{1,2} h_{3,1} h_{2,4} h_{2,1}^3 \\
& + 180 h_{1,2} h_{0,3}^2 h_{2,1} h_{3,1}^3 - 48 h_{1,2} h_{0,3} h_{2,2} h_{3,1}^3 + 18 h_{1,2} h_{0,3} h_{3,1}^2 h_{5,1} - 48 h_{1,2} h_{1,4} h_{2,1}^2 h_{3,1}^2 \\
& + 18 h_{1,2} h_{2,1} h_{3,1}^2 h_{3,3} - 32 h_{1,2} h_{0,4} h_{2,1} h_{3,1}^3 + 24 h_{1,2} h_{2,2} h_{3,1}^2 h_{3,2} + 24 h_{1,2}^2 h_{2,1} h_{3,2} h_{5,1}
\end{aligned}$$

$$\begin{aligned}
& +240 h_{1,2}^2 h_{1,3} h_{2,1}^3 h_{3,2} - 72 h_{1,2}^2 h_{1,3} h_{2,1}^2 h_{5,1} - 960 h_{0,3} h_{1,2}^3 h_{2,1}^3 h_{3,2} - 540 h_{0,3} h_{1,2}^2 h_{2,1}^4 h_{2,3} \\
& -1440 h_{0,3} h_{1,2}^2 h_{2,1}^3 h_{2,2}^2 - 480 h_{0,4} h_{1,2}^2 h_{2,1}^4 h_{2,2} - 960 h_{1,2}^3 h_{1,3} h_{2,1}^3 h_{2,2} - 72 h_{1,2}^2 h_{2,1}^2 h_{2,3} h_{4,1} \\
& +240 h_{0,3} h_{1,2}^2 h_{2,1}^3 h_{4,2} + 160 h_{0,4} h_{1,2}^2 h_{2,1}^3 h_{4,1} + 160 h_{1,2}^4 h_{2,1} h_{2,2} h_{4,1} + 240 h_{1,2}^3 h_{1,3} h_{2,1}^2 h_{4,1} \\
& +320 h_{1,2}^3 h_{2,1}^2 h_{2,2} h_{3,2} + 240 h_{1,2}^2 h_{2,1}^3 h_{2,2} h_{2,3} - 72 h_{0,3} h_{1,2}^2 h_{2,1}^2 h_{6,1} - 72 h_{0,3} h_{1,2}^2 h_{2,1} h_{4,1}^2 \\
& -64 h_{1,2}^3 h_{2,1} h_{3,2} h_{4,1} - 96 h_{1,2}^2 h_{2,1}^2 h_{2,2} h_{4,2} + 240 h_{0,3} h_{1,2}^3 h_{2,1}^2 h_{5,1} + 240 h_{0,4} h_{1,2}^2 h_{2,1}^2 h_{3,1}^2 \\
& -96 h_{1,2}^2 h_{2,1} h_{2,2}^2 h_{4,1} + 24 h_{1,2}^2 h_{2,1} h_{2,2} h_{6,1} + 24 h_{1,2}^2 h_{2,1} h_{4,1} h_{4,2} + 240 h_{1,2}^3 h_{1,3} h_{2,1} h_{3,1}^2 \\
& -72 h_{1,2}^2 h_{2,1} h_{2,3} h_{3,1}^2 - 1620 h_{0,3}^2 h_{1,2}^2 h_{2,1}^2 h_{3,1}^2 - 720 h_{0,3} h_{1,2}^4 h_{2,1} h_{3,1}^2 - 72 h_{0,3} h_{1,2}^2 h_{3,1}^2 h_{4,1} \\
& -64 h_{1,2}^3 h_{2,1} h_{2,2} h_{5,1} - 72 h_{3,1} h_{1,2}^2 h_{2,1}^2 h_{3,3} + 2016 h_{3,1} h_{0,3} h_{1,2}^5 h_{2,1}^2 - 640 h_{3,1} h_{0,4} h_{1,2}^3 h_{2,1}^3 \\
& +160 h_{3,1} h_{1,2}^2 h_{1,4} h_{2,1}^3 - 64 h_{3,1} h_{1,2}^3 h_{2,1} h_{4,2} - 384 h_{3,1} h_{1,2}^5 h_{2,1} h_{2,2} + 5040 h_{3,1} h_{0,3}^2 h_{1,2}^3 h_{2,1}^3 \\
& +320 h_{3,1} h_{1,2}^3 h_{2,1} h_{2,2}^2 - 64 h_{3,1} h_{1,2}^3 h_{2,2} h_{4,1} + 24 h_{3,1} h_{1,2}^2 h_{2,2} h_{5,1} + 160 h_{3,1} h_{1,2}^4 h_{2,1} h_{3,2} \\
& +24 h_{3,1} h_{1,2}^2 h_{2,1} h_{5,2} + 24 h_{3,1} h_{1,2}^2 h_{3,2} h_{4,1} - 720 h_{3,1} h_{1,2}^4 h_{1,3} h_{2,1}^2 + 240 h_{3,1} h_{1,2}^3 h_{2,1}^2 h_{2,3} \\
& +3780 h_{0,3}^2 h_{1,2}^2 h_{2,1}^4 h_{2,2} + 1008 h_{0,3} h_{0,4} h_{1,2}^2 h_{2,1}^5 + 3360 h_{0,3} h_{1,2}^4 h_{2,1}^3 h_{2,2} - 8 h_{1,2} h_{3,1} h_{2,2} h_{6,1} \\
& +2520 h_{0,3} h_{1,2}^3 h_{1,3} h_{2,1}^4 - 1080 h_{0,3}^2 h_{1,2}^2 h_{2,1}^3 h_{4,1} - 720 h_{0,3} h_{1,2}^4 h_{2,1}^2 h_{4,1} + 24 h_{1,2} h_{3,1} h_{2,1} h_{3,2}^2 \\
& +180 h_{1,2} h_{3,1} h_{1,3}^2 h_{2,1}^3 + 240 h_{1,2} h_{1,3} h_{2,1}^3 h_{2,2}^2 - 8 h_{1,2} h_{2,1} h_{2,2} h_{7,1} - 8 h_{1,2} h_{2,1} h_{4,1} h_{5,2} \\
& -48 h_{1,2} h_{2,1}^3 h_{2,2} h_{3,3} - 96 h_{1,2} h_{2,1}^2 h_{2,2}^2 h_{3,2} + 18 h_{1,2} h_{0,3} h_{2,1}^2 h_{7,1} + 18 h_{1,2} h_{1,3} h_{2,1} h_{4,1}^2 \\
& -32 h_{1,2} h_{1,4} h_{2,1}^3 h_{4,1} + 24 h_{1,2} h_{2,1}^2 h_{2,2} h_{5,2} + 18 h_{1,2} h_{2,1}^2 h_{3,3} h_{4,1} + 24 h_{1,2} h_{2,1} h_{2,2}^2 h_{5,1} \\
& +80 h_{1,2} h_{1,4} h_{2,1}^4 h_{2,2} - 48 h_{1,2} h_{0,3} h_{2,1}^3 h_{5,2} - 8 h_{1,2} h_{2,2} h_{4,1} h_{5,1} + 1890 h_{1,2} h_{3,1} h_{0,3}^3 h_{2,1}^4 \\
& -8 h_{1,2} h_{3,1} h_{4,1} h_{4,2} - 64 h_{1,2} h_{3,1} h_{2,1} h_{2,2}^3 + 24 h_{1,2} h_{3,1} h_{2,2}^2 h_{4,1} + 18 h_{1,2} h_{3,1} h_{0,3} h_{4,1}^2 \\
& +18 h_{1,2} h_{1,3} h_{3,1}^2 h_{4,1} + 1134 h_{1,2} h_{0,3}^2 h_{1,3} h_{2,1}^5 - 540 h_{1,2} h_{0,3}^2 h_{2,1}^4 h_{3,2} + h_{0,4} h_{3,1}^4 \\
& +180 h_{1,2} h_{0,3}^2 h_{2,1}^3 h_{5,1} + 90 h_{1,2} h_{0,3} h_{2,1}^4 h_{3,3} - 108 h_{1,3} h_{2,1}^2 h_{0,3} h_{3,1} h_{4,1} + 4 h_{2,2}^3 h_{3,1}^2 \\
& +36 h_{2,2} h_{0,3} h_{2,1} h_{3,1} h_{5,1} + 36 h_{2,2} h_{1,3} h_{2,1} h_{3,1} h_{4,1} + 360 h_{2,2} h_{0,3} h_{1,3} h_{2,1}^3 h_{3,1} \\
& -144 h_{2,2} h_{0,3} h_{2,1}^2 h_{3,1} h_{3,2} + 36 h_{2,1} h_{3,2} h_{0,3} h_{3,1} h_{4,1} - 144 h_{1,2} h_{0,3} h_{1,4} h_{2,1}^5 \\
& -144 h_{1,2} h_{3,1} h_{1,3} h_{2,1}^2 h_{3,2} + 36 h_{1,2} h_{3,1} h_{1,3} h_{2,1} h_{5,1} + 48 h_{1,2} h_{2,1} h_{2,2} h_{3,2} h_{4,1} \\
& -1080 h_{1,2} h_{0,3} h_{1,3} h_{2,1}^4 h_{2,2} + 360 h_{1,2} h_{0,3} h_{1,3} h_{2,1}^3 h_{4,1} + 480 h_{1,2} h_{0,3} h_{2,1}^3 h_{2,2} h_{3,2} \\
& -144 h_{1,2} h_{0,3} h_{2,1}^2 h_{2,2} h_{5,1} - 144 h_{1,2} h_{0,3} h_{2,1}^2 h_{3,2} h_{4,1} - 144 h_{1,2} h_{1,3} h_{2,1}^2 h_{2,2} h_{4,1} \\
& +36 h_{1,2} h_{0,3} h_{2,1} h_{4,1} h_{5,1} + 540 h_{1,2} h_{0,3} h_{1,3} h_{2,1}^2 h_{3,1}^2 - 144 h_{1,2} h_{1,3} h_{2,1} h_{2,2} h_{3,1}^2 \\
& -144 h_{1,2} h_{3,1} h_{2,1}^2 h_{2,2} h_{2,3} + 36 h_{1,2} h_{3,1} h_{2,1} h_{2,3} h_{4,1} - 2160 h_{1,2} h_{3,1} h_{0,3}^2 h_{2,1}^3 h_{2,2} \\
& -720 h_{1,2} h_{3,1} h_{0,3} h_{0,4} h_{2,1}^4 + 540 h_{1,2} h_{3,1} h_{0,3}^2 h_{2,1}^2 h_{4,1} + 720 h_{1,2} h_{3,1} h_{0,3} h_{2,1}^2 h_{2,2}^2 \\
& -144 h_{1,2} h_{3,1} h_{0,3} h_{2,1}^2 h_{4,2} + 320 h_{1,2} h_{3,1} h_{0,4} h_{2,1}^3 h_{2,2} - 96 h_{1,2} h_{3,1} h_{0,4} h_{2,1}^2 h_{4,1} \\
& +48 h_{1,2} h_{3,1} h_{2,1} h_{2,2} h_{4,2} + 360 h_{1,2} h_{3,1} h_{0,3} h_{2,1}^3 h_{2,3} - 192 h_{3,1} h_{1,2}^2 h_{2,1} h_{2,2} h_{3,2} \\
& -2160 h_{3,1} h_{0,3} h_{1,2}^2 h_{1,3} h_{2,1}^3 + 720 h_{3,1} h_{1,2}^2 h_{1,3} h_{2,1}^2 h_{2,2} - 144 h_{3,1} h_{1,2}^2 h_{1,3} h_{2,1} h_{4,1}
\end{aligned}$$

$$\begin{aligned}
& -2880 h_{3,1} h_{0,3} h_{1,2}^3 h_{2,1}^2 h_{2,2} + 480 h_{3,1} h_{0,3} h_{1,2}^3 h_{2,1} h_{4,1} + 720 h_{3,1} h_{0,3} h_{1,2}^2 h_{2,1}^2 h_{3,2} \\
& -144 h_{3,1} h_{0,3} h_{1,2}^2 h_{2,1} h_{5,1} + 720 h_{0,3} h_{1,2}^2 h_{2,1} h_{2,2} h_{3,1}^2 + 720 h_{0,3} h_{1,2}^2 h_{2,1}^2 h_{2,2} h_{4,1} \\
& -144 h_{1,2} h_{0,3} h_{2,1} h_{3,1}^2 h_{3,2} + 36 h_{1,2} h_{3,1} h_{0,3} h_{2,1} h_{6,1} - 2 h_{2,1}^2 h_{4,2}^2 - 8 h_{0,4}^2 h_{2,1}^6 \\
& -\frac{9}{2} h_{2,1}^4 h_{2,3}^2 - h_{3,1} h_{9,1} - 2 h_{1,2}^2 h_{5,1}^2 + h_{2,2} h_{5,1}^2 - h_{5,1} h_{7,1} - h_{0,3} h_{4,1}^3 - 2 h_{2,2}^2 h_{4,1}^2 \\
& -8 h_{2,1}^2 h_{2,2}^4 - 189 h_{0,3}^4 h_{2,1}^6 - 8 h_{1,2}^4 h_{4,1}^2 - 32 h_{1,2}^6 h_{3,1}^2 - 128 h_{1,2}^8 h_{2,1}^2 + h_{8,2} h_{2,1}^2 \\
& -h_{2,5} h_{2,1}^5 + h_{0,6} h_{2,1}^6 - h_{6,3} h_{2,1}^3 - h_{10,1} h_{2,1} + h_{4,4} h_{2,1}^4 - \frac{1}{2} h_{6,1}^2 + h_{12,0}, \\
h_{13} = & -16 h_{3,1} h_{2,1} h_{2,2}^4 + 8 h_{3,1} h_{2,2}^3 h_{4,1} + 160 h_{1,2}^3 h_{2,2}^2 h_{3,1}^2 - 32 h_{1,2} h_{2,2}^3 h_{3,1}^2 + 12 h_{2,2}^2 h_{3,1}^2 h_{3,2} \\
& +1344 h_{1,2}^5 h_{2,1}^2 h_{2,2}^2 - 640 h_{1,2}^3 h_{2,1}^2 h_{2,2}^2 + 6 h_{2,2} h_{2,3} h_{3,1}^3 - 4 h_{2,2} h_{3,1}^2 h_{5,2} - 4 h_{3,1} h_{2,2}^2 h_{6,1} \\
& +6 h_{2,1}^3 h_{2,2} h_{5,3} + 10 h_{2,1}^5 h_{2,2} h_{1,5} - 4 h_{2,1}^2 h_{2,2} h_{7,2} - 8 h_{2,1}^4 h_{2,2} h_{3,4} - 24 h_{0,3} h_{2,2}^2 h_{3,1}^3 \\
& +2 h_{2,1} h_{2,2} h_{9,1} + 80 h_{1,2}^3 h_{2,1}^3 h_{4,3} + 280 h_{1,2}^3 h_{2,1}^5 h_{0,5} - 32 h_{1,2}^3 h_{2,1}^2 h_{6,2} + 2 h_{2,2} h_{3,1} h_{8,1} \\
& -160 h_{1,2}^3 h_{2,1}^4 h_{2,4} - 24 h_{1,2}^2 h_{2,1}^3 h_{5,3} - 60 h_{1,2}^2 h_{2,1}^5 h_{1,5} + 18144 h_{1,2}^3 h_{2,1}^5 h_{0,3}^3 \\
& +18144 h_{1,2}^5 h_{2,1}^4 h_{0,3}^2 + 4608 h_{1,2}^7 h_{2,1}^3 h_{0,3} + 448 h_{1,2}^6 h_{2,1}^2 h_{3,2} + 12 h_{1,2}^2 h_{2,1}^2 h_{7,2} \\
& +40 h_{1,2}^2 h_{2,1}^4 h_{3,4} + 80 h_{1,2}^4 h_{2,1}^2 h_{5,2} + 672 h_{1,2}^5 h_{2,1}^3 h_{2,3} + 560 h_{1,2}^4 h_{2,1}^4 h_{1,4} \\
& -240 h_{1,2}^4 h_{2,1}^3 h_{3,3} + 160 h_{1,2}^3 h_{2,1}^2 h_{3,2}^2 - 32 h_{2,2} h_{1,2}^3 h_{4,1}^2 - 4 h_{2,2} h_{3,2} h_{4,1}^2 + 2 h_{2,2} h_{4,1} h_{7,1} \\
& -192 h_{2,2} h_{1,2}^5 h_{3,1}^2 - 1024 h_{2,2} h_{1,2}^7 h_{2,1}^2 + 80 h_{1,2} h_{2,1}^2 h_{2,2}^4 + 8 h_{2,1} h_{2,2}^3 h_{5,1} - 4 h_{2,1} h_{2,2}^2 h_{7,1} \\
& +40 h_{1,4} h_{2,1}^4 h_{2,2}^2 - 24 h_{2,1}^3 h_{2,2}^2 h_{3,3} - 32 h_{2,1}^2 h_{2,2}^3 h_{3,2} + 12 h_{1,2} h_{2,2}^2 h_{4,1}^2 + 12 h_{2,1}^2 h_{2,2}^2 h_{5,2} \\
& -4 h_{2,2}^2 h_{4,1} h_{5,1} - 756 h_{1,3} h_{2,1}^6 h_{0,3}^3 - 1792 h_{1,3} h_{2,1}^3 h_{1,2}^6 + 2 h_{2,1} h_{4,2} h_{7,1} - 4 h_{2,1} h_{4,2}^2 h_{3,1} \\
& -9 h_{1,3} h_{2,1}^4 h_{4,3} - 15 h_{1,3} h_{2,1}^6 h_{0,5} + 6 h_{1,3} h_{2,1}^3 h_{6,2} + 12 h_{1,3} h_{2,1}^5 h_{2,4} + 1260 h_{1,3}^2 h_{2,1}^4 h_{1,2}^3 \\
& +45 h_{1,3}^2 h_{2,1}^4 h_{3,2} - 18 h_{1,3}^2 h_{2,1}^3 h_{5,1} - 3 h_{1,3} h_{2,1}^2 h_{8,1} - 192 h_{2,1}^2 h_{4,2} h_{1,2}^5 - 8 h_{2,1}^4 h_{4,2} h_{1,4} \\
& +4 h_{2,1}^3 h_{3,4} h_{4,1} + 4 h_{2,1}^3 h_{2,4} h_{5,1} - 3 h_{0,3} h_{3,1} h_{5,1}^2 - 1134 h_{0,3}^4 h_{2,1}^5 h_{3,1} - 135 h_{0,3}^3 h_{2,1}^4 h_{5,1} \\
& +12 h_{2,1}^2 h_{4,2}^2 h_{1,2} + 6 h_{2,1}^3 h_{4,2} h_{3,3} - 4 h_{2,1}^2 h_{4,2} h_{5,2} - 24 h_{1,3} h_{2,1}^3 h_{3,2}^2 + 80 h_{1,3} h_{2,1}^3 h_{2,2}^3 \\
& -1792 h_{0,4} h_{2,1}^4 h_{1,2}^5 + 1080 h_{1,3} h_{2,1}^2 h_{0,3} h_{1,2} h_{3,1} h_{4,1} - 4320 h_{1,3} h_{2,1}^3 h_{0,3} h_{1,2} h_{2,2} h_{3,1} \\
& -8 h_{0,4} h_{2,1}^4 h_{5,2} + 4 h_{0,4} h_{2,1}^3 h_{7,1} - 288 h_{1,2} h_{2,1} h_{0,3} h_{3,1} h_{3,2} h_{4,1} + 112 h_{0,4}^2 h_{2,1}^6 h_{1,2} \\
& -48 h_{0,4}^2 h_{2,1}^5 h_{3,1} - 16 h_{0,4} h_{2,1}^6 h_{1,4} + 12 h_{0,4} h_{2,1}^5 h_{3,3} - 288 h_{2,2} h_{3,1} h_{1,2} h_{1,3} h_{2,1} h_{4,1} \\
& -3 h_{2,1} h_{3,3} h_{4,1}^2 - 3 h_{2,3} h_{3,1} h_{4,1}^2 - 3 h_{3,1}^2 h_{3,3} h_{4,1} + 1440 h_{2,2} h_{3,1} h_{0,3} h_{1,2}^2 h_{2,1} h_{4,1} \\
& +2 h_{3,1} h_{4,1} h_{6,2} - 5 h_{1,5} h_{2,1}^4 h_{4,1} + 4 h_{0,4} h_{3,1}^3 h_{4,1} + 1440 h_{2,2} h_{3,1} h_{0,3} h_{1,2} h_{2,1}^2 h_{3,2} \\
& -3 h_{2,1}^2 h_{4,1} h_{5,3} + 2 h_{2,1} h_{4,1} h_{7,2} + 6 h_{1,4} h_{2,1}^2 h_{4,1}^2 - 3 h_{0,3} h_{4,1}^2 h_{5,1} - 3 h_{1,3} h_{2,1} h_{5,1}^2 \\
& -3 h_{2,1}^2 h_{4,3} h_{5,1} - 3 h_{2,3} h_{3,1}^2 h_{5,1} + 2 h_{2,1} h_{5,1} h_{6,2} + 2 h_{3,1} h_{5,1} h_{5,2} + 2 h_{4,1} h_{4,2} h_{5,1} \\
& +2 h_{3,1} h_{4,2} h_{6,1} + 2 h_{3,2} h_{4,1} h_{6,1} - 5 h_{0,5} h_{2,1}^4 h_{5,1} - 18 h_{1,3}^2 h_{2,1} h_{3,1}^3 + 4 h_{1,4} h_{2,1}^3 h_{6,1} \\
& -3 h_{1,3} h_{3,1}^2 h_{6,1} - 3 h_{2,1}^2 h_{3,3} h_{6,1} + 2 h_{2,1} h_{5,2} h_{6,1} + 2 h_{2,2} h_{5,1} h_{6,1} - 4 h_{2,1} h_{3,2}^2 h_{5,1} \\
& +6 h_{2,1}^3 h_{3,2} h_{4,3} + 10 h_{2,1}^5 h_{3,2} h_{0,5} - 4 h_{2,1}^2 h_{3,2} h_{6,2} - 8 h_{2,1}^4 h_{3,2} h_{2,4} + 2 h_{2,1} h_{3,2} h_{8,1}
\end{aligned}$$

$$\begin{aligned}
& -18 h_{0,3}^2 h_{3,1}^3 h_{4,1} - 9 h_{0,3} h_{1,3} h_{3,1}^4 + 6 h_{0,3} h_{3,1}^3 h_{4,2} - 3 h_{0,3} h_{3,1}^2 h_{7,1} - 18 h_{0,3}^2 h_{2,1}^3 h_{7,1} \\
& + 378 h_{0,3}^3 h_{2,1}^5 h_{3,2} + 45 h_{0,3}^2 h_{2,1}^4 h_{5,2} - 81 h_{0,3}^2 h_{2,1}^5 h_{3,3} - 288 h_{2,2} h_{3,1} h_{0,3} h_{1,2} h_{2,1} h_{5,1} \\
& + 126 h_{0,3}^2 h_{2,1}^6 h_{1,4} - 3 h_{0,3} h_{2,1}^2 h_{9,1} - 4 h_{3,1} h_{3,2}^2 h_{4,1} + 6 h_{3,2} h_{1,3} h_{3,1}^3 - 4 h_{3,2} h_{3,1}^2 h_{4,2} \\
& + 2 h_{3,2} h_{3,1} h_{7,1} + 12 h_{2,1}^5 h_{2,3} h_{1,4} - 9 h_{2,1}^4 h_{2,3} h_{3,3} - 18 h_{2,1}^3 h_{2,3}^2 h_{3,1} + 6 h_{2,1}^3 h_{2,3} h_{5,2} \\
& - 3 h_{2,1}^2 h_{2,3} h_{7,1} + 2 h_{1,2} h_{4,1} h_{8,1} + 2 h_{1,2} h_{3,1} h_{9,1} + 45 h_{1,2} h_{0,3}^2 h_{3,1}^4 - 4 h_{1,2} h_{3,1}^2 h_{6,2} \\
& + 12 h_{1,2} h_{3,1}^2 h_{3,2}^2 + 6 h_{1,2} h_{3,1}^3 h_{3,3} - 8 h_{1,2} h_{0,4} h_{3,1}^4 - 9 h_{0,3} h_{2,1}^4 h_{5,3} - 270 h_{0,3}^3 h_{2,1}^2 h_{3,1}^3 \\
& + 6 h_{0,3} h_{2,1}^3 h_{7,2} + 12 h_{0,3} h_{2,1}^5 h_{3,4} - 15 h_{0,3} h_{2,1}^6 h_{1,5} - 24 h_{1,2}^2 h_{2,3} h_{3,1}^3 + 12 h_{1,2}^2 h_{3,1}^2 h_{5,2} \\
& - 4 h_{1,2}^2 h_{3,1} h_{8,1} + 6 h_{1,2} h_{0,3} h_{4,1}^3 - 2160 h_{1,2}^2 h_{2,1}^3 h_{0,3} h_{2,3} h_{3,1} + 480 h_{1,2}^2 h_{2,1}^2 h_{0,4} h_{3,1} h_{4,1} \\
& - 3240 h_{1,2}^2 h_{2,1}^2 h_{0,3}^2 h_{3,1} h_{4,1} + 720 h_{1,2}^2 h_{2,1}^2 h_{0,3} h_{3,2} h_{4,1} - 2880 h_{1,2}^3 h_{2,1}^2 h_{0,3} h_{3,1} h_{3,2} \\
& + 36 h_{1,2} h_{3,1} h_{0,3} h_{4,1} h_{5,1} + 360 h_{1,2} h_{2,1} h_{0,3} h_{1,3} h_{3,1}^3 + 36 h_{1,2} h_{2,1} h_{0,3} h_{3,1} h_{7,1} \\
& - 144 h_{1,2} h_{2,1} h_{1,3} h_{3,1}^2 h_{3,2} + 36 h_{1,2} h_{2,1} h_{1,3} h_{3,1} h_{6,1} + 36 h_{1,2} h_{2,1} h_{1,3} h_{4,1} h_{5,1} \\
& - 144 h_{1,2}^2 h_{2,1} h_{2,3} h_{3,1} h_{4,1} - 144 h_{1,2}^2 h_{2,1} h_{1,3} h_{3,1} h_{5,1} + 540 h_{1,2} h_{2,1} h_{0,3}^2 h_{3,1}^2 h_{4,1} \\
& - 4 h_{1,2} h_{4,1}^2 h_{4,2} + 36 h_{1,2} h_{2,1} h_{0,3} h_{4,1} h_{6,1} - 96 h_{1,2} h_{2,1} h_{0,4} h_{3,1}^2 h_{4,1} \\
& + 480 h_{1,2}^3 h_{2,1} h_{1,3} h_{3,1} h_{4,1} - 144 h_{1,2}^2 h_{2,1} h_{0,3} h_{3,1} h_{6,1} - 144 h_{1,2}^2 h_{2,1} h_{0,3} h_{4,1} h_{5,1} \\
& + 720 h_{1,2}^2 h_{2,1} h_{0,3} h_{3,1}^2 h_{3,2} + 36 h_{1,2} h_{2,1} h_{2,3} h_{3,1} h_{5,1} + 36 h_{1,2} h_{2,1} h_{3,1} h_{3,3} h_{4,1} \\
& - 1440 h_{1,2}^4 h_{2,1} h_{0,3} h_{3,1} h_{4,1} + 480 h_{1,2}^3 h_{2,1} h_{0,3} h_{3,1} h_{5,1} - 144 h_{1,2} h_{2,1}^2 h_{0,3} h_{3,2} h_{5,1} \\
& - 720 h_{1,2} h_{2,1}^4 h_{0,3} h_{1,4} h_{3,1} + 360 h_{1,2} h_{2,1}^3 h_{0,3} h_{3,1} h_{3,3} + 540 h_{1,2} h_{2,1}^2 h_{0,3} h_{2,3} h_{3,1}^2 \\
& - 144 h_{1,2} h_{2,1}^2 h_{0,3} h_{3,1} h_{5,2} - 2160 h_{1,2} h_{2,1}^3 h_{0,3}^2 h_{3,1} h_{3,2} - 144 h_{1,2} h_{2,1}^2 h_{2,3} h_{3,1} h_{3,2} \\
& - 96 h_{1,2} h_{2,1}^2 h_{1,4} h_{3,1} h_{4,1} - 96 h_{1,2} h_{2,1}^2 h_{0,4} h_{3,1} h_{5,1} + 360 h_{1,2} h_{2,1}^3 h_{0,3} h_{2,3} h_{4,1} \\
& + 540 h_{1,2} h_{2,1}^2 h_{0,3}^2 h_{3,1} h_{5,1} + 12 h_{1,2}^2 h_{3,2} h_{4,1}^2 - 4 h_{1,2}^2 h_{4,1} h_{7,1} - 16 h_{1,2}^4 h_{4,1} h_{5,1} \\
& + 8 h_{1,2}^3 h_{4,1} h_{6,1} - 64 h_{3,1} h_{1,2}^6 h_{4,1} + 32 h_{3,1} h_{1,2}^5 h_{5,1} - 16 h_{3,1} h_{1,2}^4 h_{6,1} - 16 h_{1,2}^4 h_{2,1} h_{7,1} \\
& + 8 h_{3,1} h_{1,2}^3 h_{7,1} - 240 h_{0,3} h_{1,2}^4 h_{3,1}^3 - 32 h_{1,2}^3 h_{3,1}^2 h_{4,2} + 80 h_{1,2}^4 h_{3,1}^2 h_{3,2} - 4 h_{1,2}^2 h_{2,1} h_{9,1} \\
& + 80 h_{1,2}^3 h_{1,3} h_{3,1}^3 - 4 h_{1,2}^2 h_{5,1} h_{6,1} - 4 h_{1,2} h_{2,2} h_{5,1}^2 + 2 h_{1,2} h_{5,1} h_{7,1} + 6 h_{1,2} h_{2,1}^3 h_{6,3} \\
& - 12 h_{1,2} h_{2,1}^6 h_{0,6} + 10 h_{1,2} h_{2,1}^5 h_{2,5} - 8 h_{1,2} h_{2,1}^4 h_{4,4} - 4 h_{1,2} h_{2,1}^2 h_{8,2} + 8 h_{1,2}^3 h_{2,1} h_{8,1} \\
& - 256 h_{1,2}^8 h_{2,1} h_{3,1} + 128 h_{1,2}^7 h_{2,1} h_{4,1} - 64 h_{1,2}^6 h_{2,1} h_{5,1} + 320 h_{2,2} h_{3,1} h_{1,2} h_{1,4} h_{2,1}^3 \\
& + 45 h_{1,2} h_{2,1}^4 h_{2,3}^2 + 3402 h_{1,2} h_{2,1}^6 h_{0,3}^4 + 2 h_{1,2} h_{2,1} h_{10,1} - 96 h_{2,2} h_{3,1} h_{0,4} h_{2,1}^2 h_{4,1} \\
& - 144 h_{2,2} h_{3,1} h_{1,2} h_{2,1}^3 h_{3,3} + 640 h_{2,2} h_{3,1} h_{1,2}^3 h_{2,1} h_{3,2} + 48 h_{2,2} h_{3,1} h_{1,2} h_{2,1} h_{5,2} \\
& + 48 h_{2,2} h_{3,1} h_{1,2} h_{3,2} h_{4,1} + 360 h_{2,2} h_{3,1} h_{0,3} h_{2,1}^3 h_{2,3} + 720 h_{2,2} h_{3,1} h_{1,2}^2 h_{2,1}^2 h_{2,3} \\
& - 2160 h_{2,2} h_{0,3}^2 h_{1,2} h_{2,1}^3 h_{4,1} - 2880 h_{2,2} h_{0,3} h_{1,2}^3 h_{2,1}^2 h_{4,1} - 192 h_{3,1} h_{1,2} h_{2,1} h_{2,2}^2 h_{3,2} \\
& - 4320 h_{3,1} h_{0,3} h_{1,2}^2 h_{2,1}^2 h_{2,2}^2 - 144 h_{3,1} h_{0,3} h_{2,1} h_{2,2}^2 h_{4,1} + 720 h_{0,3} h_{1,2} h_{2,1} h_{2,2}^2 h_{3,1}^2 \\
& + 720 h_{0,3} h_{1,2} h_{2,1}^2 h_{2,2}^2 h_{4,1} + 48 h_{2,2} h_{1,2} h_{2,1} h_{3,2} h_{5,1} - 144 h_{2,2} h_{0,3} h_{2,1} h_{3,1}^2 h_{3,2}
\end{aligned}$$

$$\begin{aligned}
& +32 h_{1,2}^5 h_{2,1} h_{6,1} - 8 h_{1,2} h_{3,1} h_{3,2} h_{6,1} - 48 h_{1,2} h_{0,3} h_{3,1}^3 h_{3,2} + 18 h_{1,2} h_{0,3} h_{3,1}^2 h_{6,1} \\
& +18 h_{1,2} h_{2,3} h_{3,1}^2 h_{4,1} - 8 h_{1,2} h_{3,1} h_{4,1} h_{5,2} + 24 h_{1,2}^2 h_{3,1} h_{4,1} h_{4,2} - 72 h_{1,2}^2 h_{3,1} h_{0,3} h_{4,1}^2 \\
& +18 h_{1,2} h_{3,1} h_{1,3} h_{4,1}^2 - 72 h_{1,2}^2 h_{1,3} h_{3,1}^2 h_{4,1} + 240 h_{0,3} h_{1,2}^3 h_{3,1}^2 h_{4,1} - 64 h_{3,1} h_{1,2}^3 h_{3,2} h_{4,1} \\
& -8 h_{1,2} h_{3,2} h_{4,1} h_{5,1} + 24 h_{1,2}^2 h_{3,1} h_{3,2} h_{5,1} - 72 h_{1,2}^2 h_{0,3} h_{3,1}^2 h_{5,1} - 8 h_{1,2} h_{3,1} h_{4,2} h_{5,1} \\
& -h_{11,1} h_{2,1} + 18 h_{1,2} h_{1,3} h_{3,1}^2 h_{5,1} + 240 h_{0,4} h_{2,1}^3 h_{0,3} h_{3,1} h_{4,1} + 320 h_{0,4} h_{2,1}^3 h_{1,2} h_{2,2} h_{4,1} \\
& +320 h_{0,4} h_{2,1}^3 h_{1,2} h_{3,1} h_{3,2} - 2880 h_{2,2} h_{0,3} h_{1,2}^2 h_{2,1}^3 h_{3,2} - 1080 h_{2,2} h_{0,3} h_{1,2} h_{2,1}^4 h_{2,3} \\
& +720 h_{2,2} h_{0,3} h_{1,2}^2 h_{2,1}^2 h_{5,1} - 144 h_{2,2} h_{0,3} h_{1,2} h_{2,1}^2 h_{6,1} - 144 h_{2,2} h_{0,3} h_{1,2} h_{2,1} h_{4,1}^2 \\
& -144 h_{2,2} h_{0,3} h_{2,1}^2 h_{3,2} h_{4,1} - 192 h_{2,2} h_{1,2}^2 h_{2,1} h_{3,2} h_{4,1} - 144 h_{2,2} h_{1,2} h_{2,1}^2 h_{2,3} h_{4,1} \\
& +36 h_{2,2} h_{0,3} h_{2,1} h_{4,1} h_{5,1} + 720 h_{2,2} h_{1,2}^2 h_{1,3} h_{2,1} h_{3,1}^2 - 144 h_{2,2} h_{1,2} h_{2,1} h_{2,3} h_{3,1}^2 \\
& -3240 h_{2,2} h_{0,3}^2 h_{1,2} h_{2,1}^2 h_{3,1}^2 - 2880 h_{2,2} h_{0,3} h_{1,2}^3 h_{2,1} h_{3,1}^2 - 144 h_{2,2} h_{0,3} h_{1,2} h_{3,1}^2 h_{4,1} \\
& +480 h_{2,2} h_{0,4} h_{1,2} h_{2,1}^2 h_{3,1}^2 + 36 h_{2,2} h_{3,1} h_{2,1} h_{2,3} h_{4,1} + 15120 h_{2,2} h_{3,1} h_{0,3}^2 h_{1,2}^2 h_{2,1}^3 \\
& +10080 h_{2,2} h_{3,1} h_{0,3} h_{1,2}^4 h_{2,1}^2 + 540 h_{2,2} h_{3,1} h_{0,3}^2 h_{2,1}^2 h_{4,1} - 2160 h_{1,3} h_{2,1}^3 h_{0,3} h_{1,2}^2 h_{4,1} \\
& -1080 h_{1,3} h_{2,1}^4 h_{0,3} h_{1,2} h_{3,2} + 360 h_{1,3} h_{2,1}^3 h_{0,3} h_{1,2} h_{5,1} + 360 h_{1,3} h_{2,1}^3 h_{0,3} h_{3,1} h_{3,2} \\
& +360 h_{1,3} h_{2,1}^3 h_{0,3} h_{2,2} h_{4,1} - 720 h_{1,3} h_{2,1}^4 h_{0,4} h_{1,2} h_{3,1} - 3240 h_{1,3} h_{2,1}^2 h_{0,3} h_{1,2}^2 h_{3,1}^2 \\
& +540 h_{1,3} h_{2,1}^2 h_{0,3} h_{2,2} h_{3,1}^2 - 108 h_{1,3} h_{2,1}^2 h_{0,3} h_{3,1} h_{5,1} - 144 h_{1,3} h_{2,1}^2 h_{1,2} h_{3,1} h_{4,2} \\
& -2880 h_{1,3} h_{2,1}^3 h_{1,2}^2 h_{2,2} h_{3,1} + 720 h_{1,3} h_{2,1}^2 h_{1,2}^2 h_{2,2} h_{4,1} + 720 h_{1,3} h_{2,1}^2 h_{1,2} h_{2,2}^2 h_{3,1} \\
& -144 h_{1,3} h_{2,1}^2 h_{1,2} h_{2,2} h_{5,1} - 144 h_{1,3} h_{2,1}^2 h_{2,2} h_{3,1} h_{3,2} + 720 h_{1,3} h_{2,1}^2 h_{1,2}^2 h_{3,1} h_{3,2} \\
& -144 h_{1,3} h_{2,1}^2 h_{1,2} h_{3,2} h_{4,1} + 720 h_{2,1}^2 h_{4,2} h_{0,3} h_{1,2}^2 h_{3,1} + 480 h_{2,1}^3 h_{4,2} h_{0,3} h_{1,2} h_{2,2} \\
& -144 h_{2,1}^2 h_{4,2} h_{0,3} h_{1,2} h_{4,1} - 144 h_{2,1} h_{4,2} h_{0,3} h_{1,2} h_{3,1}^2 - 144 h_{2,1}^2 h_{4,2} h_{0,3} h_{2,2} h_{3,1} \\
& -192 h_{2,1} h_{4,2} h_{1,2}^2 h_{2,2} h_{3,1} + 36 h_{2,1} h_{4,2} h_{0,3} h_{3,1} h_{4,1} + 48 h_{2,1} h_{4,2} h_{1,2} h_{2,2} h_{4,1} \\
& +48 h_{2,1} h_{4,2} h_{1,2} h_{3,1} h_{3,2} + 5040 h_{0,4} h_{2,1}^4 h_{0,3} h_{1,2}^2 h_{3,1} + 2016 h_{0,4} h_{2,1}^5 h_{0,3} h_{1,2} h_{2,2} \\
& -720 h_{0,4} h_{2,1}^4 h_{0,3} h_{1,2} h_{4,1} - 1440 h_{0,4} h_{2,1}^3 h_{0,3} h_{1,2} h_{3,1}^2 - 720 h_{0,4} h_{2,1}^4 h_{0,3} h_{2,2} h_{3,1} \\
& -1920 h_{0,4} h_{2,1}^3 h_{1,2}^2 h_{2,2} h_{3,1} + 480 h_{1,3} h_{2,1}^3 h_{1,2} h_{2,2} h_{3,2} + 360 h_{1,3} h_{2,1}^3 h_{1,2} h_{2,3} h_{3,1} \\
& +5670 h_{1,3} h_{2,1}^4 h_{0,3}^2 h_{1,2} h_{3,1} + 10080 h_{1,3} h_{2,1}^3 h_{0,3} h_{1,2}^3 h_{3,1} + 7560 h_{1,3} h_{2,1}^4 h_{0,3} h_{1,2}^2 h_{2,2} \\
& +240 h_{1,2}^3 h_{2,1} h_{2,3} h_{3,1}^2 + 240 h_{1,2}^3 h_{2,1} h_{0,3} h_{4,1}^2 - 64 h_{1,2}^3 h_{2,1} h_{3,2} h_{5,1} - 8 h_{1,2} h_{2,1} h_{4,1} h_{6,2} \\
& -64 h_{1,2}^3 h_{2,1} h_{3,1} h_{5,2} + 18 h_{1,2} h_{2,1} h_{3,1}^2 h_{4,3} - 32 h_{1,2} h_{2,1} h_{1,4} h_{3,1}^3 + 24 h_{1,2} h_{2,1} h_{3,1}^2 h_{4,1} \\
& -8 h_{1,2} h_{2,1} h_{3,2} h_{7,1} - 8 h_{1,2} h_{2,1} h_{5,1} h_{5,2} - 8 h_{1,2} h_{2,1} h_{3,1} h_{7,2} + 18 h_{1,2} h_{2,1} h_{0,3} h_{5,1}^2 \\
& +18 h_{1,2} h_{2,1} h_{2,3} h_{4,1}^2 + 24 h_{1,2}^2 h_{2,1} h_{3,2} h_{6,1} - 72 h_{1,2}^2 h_{2,1} h_{1,3} h_{4,1}^2 - 72 h_{1,2}^2 h_{2,1} h_{3,1}^2 h_{3,3} \\
& +160 h_{1,2}^2 h_{2,1} h_{0,4} h_{3,1}^3 - 48 h_{1,2} h_{2,1}^3 h_{3,2} h_{3,3} + 18 h_{1,2} h_{2,1}^2 h_{3,3} h_{5,1} + 100 h_{1,2} h_{2,1}^3 h_{0,5} h_{3,1}^2 \\
& -32 h_{1,2} h_{2,1}^3 h_{3,1} h_{3,4} - 48 h_{1,2} h_{2,1}^2 h_{2,4} h_{3,1}^2 + 18 h_{1,2} h_{2,1}^2 h_{4,1} h_{4,3} - 48 h_{1,2} h_{2,1}^2 h_{0,4} h_{4,1}^2 \\
& +80 h_{1,2} h_{2,1}^4 h_{1,4} h_{3,2} - 32 h_{1,2} h_{2,1}^3 h_{1,4} h_{5,1} - 384 h_{1,2}^5 h_{2,1} h_{3,1} h_{3,2} + 160 h_{1,2}^4 h_{2,1} h_{3,2} h_{4,1}
\end{aligned}$$

$$\begin{aligned}
& -720 h_{1,2}^4 h_{2,1} h_{1,3} h_{3,1}^2 + 2016 h_{1,2}^5 h_{2,1} h_{0,3} h_{3,1}^2 + 1134 h_{1,2} h_{2,1}^5 h_{0,3}^2 h_{2,3} + 24 h_{1,2}^2 h_{2,1} h_{3,1} h_{6,2} \\
& + 3780 h_{1,2} h_{2,1}^3 h_{0,3}^3 h_{3,1}^2 + 1890 h_{1,2} h_{2,1}^4 h_{0,3}^3 h_{4,1} + 180 h_{1,2} h_{2,1}^3 h_{0,3}^2 h_{6,1} - 96 h_{1,2}^2 h_{2,1} h_{3,1} h_{3,2}^2 \\
& + 18 h_{1,2} h_{2,1}^2 h_{0,3} h_{8,1} + 270 h_{1,2} h_{2,1}^2 h_{0,3}^2 h_{4,1}^2 + 240 h_{1,2} h_{2,1}^3 h_{0,3} h_{3,2}^2 + 90 h_{1,2} h_{2,1}^4 h_{0,3} h_{4,3} \\
& + 210 h_{1,2} h_{2,1}^6 h_{0,3} h_{0,5} + 160 h_{1,2}^2 h_{2,1}^3 h_{2,4} h_{3,1} - 300 h_{1,2}^2 h_{2,1}^4 h_{0,5} h_{3,1} + 18 h_{1,2} h_{2,1}^2 h_{3,1} h_{5,3} \\
& + 50 h_{1,2} h_{2,1}^4 h_{0,5} h_{4,1} - 32 h_{1,2} h_{2,1}^3 h_{2,4} h_{4,1} + 50 h_{1,2} h_{2,1}^4 h_{1,5} h_{3,1} - 1080 h_{1,2}^2 h_{2,1}^3 h_{0,3}^2 h_{5,1} \\
& + 24 h_{1,2} h_{2,1}^2 h_{3,2} h_{5,2} + 24 h_{1,2}^2 h_{2,1} h_{4,1} h_{5,2} - 48 h_{1,2} h_{2,1}^3 h_{0,3} h_{6,2} - 144 h_{1,2} h_{2,1}^5 h_{0,3} h_{2,4} \\
& - 1080 h_{1,2}^2 h_{2,1} h_{0,3}^2 h_{3,1}^3 - 720 h_{1,2}^4 h_{2,1}^2 h_{0,3} h_{5,1} + 240 h_{1,2}^3 h_{2,1}^2 h_{0,3} h_{6,1} - 72 h_{1,2}^2 h_{2,1}^2 h_{0,3} h_{7,1} \\
& - 15120 h_{1,2}^2 h_{2,1}^4 h_{0,3}^3 h_{3,1} - 72 h_{1,2}^2 h_{2,1}^2 h_{3,3} h_{4,1} - 20160 h_{1,2}^4 h_{2,1}^3 h_{0,3}^2 h_{3,1} - 72 h_{1,2}^2 h_{2,1}^2 h_{3,1} h_{4,3} \\
& + 3780 h_{1,2}^2 h_{2,1}^4 h_{0,3}^2 h_{3,2} + 240 h_{1,2}^2 h_{2,1}^2 h_{1,4} h_{3,1}^2 + 160 h_{1,2}^2 h_{2,1}^3 h_{1,4} h_{4,1} + 18 h_{1,2} h_{2,1}^2 h_{2,3} h_{6,1} \\
& + 240 h_{1,2}^2 h_{2,1}^3 h_{2,3} h_{3,2} - 72 h_{1,2}^2 h_{2,1}^2 h_{2,3} h_{5,1} + 5040 h_{1,2}^3 h_{2,1}^3 h_{0,3}^2 h_{4,1} + 240 h_{1,2}^3 h_{2,1}^2 h_{2,3} h_{4,1} \\
& - 640 h_{1,2}^3 h_{2,1}^3 h_{1,4} h_{3,1} + 240 h_{1,2}^3 h_{2,1}^2 h_{3,1} h_{3,3} - 960 h_{1,2}^3 h_{2,1}^2 h_{0,4} h_{3,1}^2 - 720 h_{1,2}^4 h_{2,1}^2 h_{2,3} h_{3,1} \\
& - 48 h_{2,1}^3 h_{2,2} h_{2,3} h_{3,2} + 18 h_{2,1}^2 h_{2,2} h_{2,3} h_{5,1} + 3360 h_{1,2}^4 h_{2,1}^3 h_{0,3} h_{3,2} + 240 h_{1,2}^2 h_{2,1}^3 h_{0,3} h_{5,2} \\
& + 2520 h_{1,2}^3 h_{2,1}^4 h_{0,3} h_{2,3} + 7560 h_{1,2}^3 h_{2,1}^2 h_{0,3}^2 h_{3,1}^2 + 1008 h_{1,2}^2 h_{2,1}^5 h_{0,3} h_{1,4} - 27 h_{1,3}^3 h_{2,1}^5 \\
& - 540 h_{1,2}^2 h_{2,1}^4 h_{0,3} h_{3,3} - 5376 h_{1,2}^6 h_{2,1}^2 h_{0,3} h_{3,1} + 2016 h_{1,2}^5 h_{2,1}^2 h_{0,3} h_{4,1} - 8 h_{2,1} h_{2,2} h_{3,2} h_{6,1} \\
& + 180 h_{2,2} h_{0,3}^2 h_{2,1} h_{3,1}^3 + 18 h_{2,2} h_{0,3} h_{3,1}^2 h_{5,1} - 48 h_{2,2} h_{1,4} h_{2,1}^2 h_{3,1}^2 + 18 h_{2,2} h_{2,1} h_{3,1}^2 h_{3,3} \\
& - 32 h_{2,2} h_{0,4} h_{2,1} h_{3,1}^3 - 96 h_{2,2} h_{1,2} h_{2,1}^2 h_{3,2}^2 - 48 h_{2,2} h_{1,2} h_{2,1}^3 h_{4,3} - 120 h_{2,2} h_{0,5} h_{1,2} h_{2,1}^5 \\
& + 24 h_{2,2} h_{1,2} h_{2,1}^2 h_{6,2} + 80 h_{2,2} h_{1,2} h_{2,1}^4 h_{2,4} - 8 h_{2,2} h_{1,2} h_{2,1} h_{8,1} + 24 h_{2,2} h_{3,1} h_{2,1} h_{3,2}^2 \\
& - 8 h_{2,2} h_{3,1} h_{3,2} h_{5,1} + 18 h_{2,2} h_{3,1} h_{4,3} h_{2,1}^2 + 50 h_{2,2} h_{3,1} h_{0,5} h_{2,1}^4 + 480 h_{1,2}^2 h_{2,1}^2 h_{2,2}^2 h_{3,2} \\
& - 32 h_{2,2} h_{3,1} h_{2,4} h_{2,1}^3 + 240 h_{0,3} h_{2,1}^3 h_{2,2}^2 h_{3,2} + 320 h_{1,2}^3 h_{2,1} h_{2,2}^2 h_{4,1} - 8 h_{2,2} h_{3,1} h_{6,2} h_{2,1} \\
& + 240 h_{1,2} h_{2,1}^3 h_{2,2}^2 h_{2,3} - 72 h_{0,3} h_{2,1}^2 h_{2,2}^2 h_{5,1} - 96 h_{1,2}^2 h_{2,1} h_{2,2}^2 h_{5,1} - 64 h_{1,2} h_{2,1} h_{2,2}^3 h_{4,1} \\
& + 24 h_{1,2} h_{2,1} h_{2,2}^2 h_{6,1} - 72 h_{1,3} h_{2,1} h_{2,2}^2 h_{3,1}^2 - 72 h_{3,1} h_{2,1}^2 h_{2,2}^2 h_{2,3} - 1080 h_{3,1} h_{0,3}^2 h_{2,1}^3 h_{2,2}^2 \\
& + 240 h_{3,1} h_{0,3} h_{2,1}^2 h_{2,2}^3 - 960 h_{3,1} h_{1,2}^4 h_{2,1} h_{2,2}^2 + 320 h_{3,1} h_{1,2}^2 h_{2,1} h_{2,2}^3 - 96 h_{3,1} h_{1,2}^2 h_{2,2}^2 h_{4,1} \\
& + 24 h_{3,1} h_{1,2} h_{2,2}^2 h_{5,1} + 3780 h_{0,3}^2 h_{1,2} h_{2,1}^4 h_{2,2}^2 + 6720 h_{0,3} h_{1,2}^3 h_{2,1}^3 h_{2,2}^2 - 8 h_{2,2} h_{3,1} h_{1,2} h_{7,1} \\
& + 18 h_{2,2} h_{3,1} h_{0,3} h_{4,1}^2 + 240 h_{2,2} h_{0,3} h_{1,2}^2 h_{3,1}^3 + 24 h_{2,2} h_{1,2} h_{3,1}^2 h_{4,2} - 96 h_{2,2} h_{1,2}^2 h_{3,1}^2 h_{3,2} \\
& - 48 h_{2,2} h_{1,2} h_{1,3} h_{3,1}^3 + 18 h_{2,2} h_{1,3} h_{3,1}^2 h_{4,1} - 6048 h_{2,2} h_{0,3}^3 h_{1,2} h_{2,1}^5 - 20160 h_{2,2} h_{0,3}^2 h_{1,2}^3 h_{2,1}^4 \\
& - 10752 h_{2,2} h_{0,3} h_{1,2}^5 h_{2,1}^3 - 540 h_{2,2} h_{0,3}^2 h_{2,1}^4 h_{3,2} - 144 h_{2,2} h_{0,3} h_{1,4} h_{2,1}^5 - 384 h_{2,2} h_{1,2}^5 h_{2,1} h_{4,1} \\
& - 960 h_{2,2} h_{1,2}^4 h_{2,1}^2 h_{3,2} - 960 h_{2,2} h_{1,2}^3 h_{2,1}^3 h_{2,3} - 480 h_{2,2} h_{1,2}^2 h_{1,4} h_{2,1}^4 + 180 h_{2,2} h_{0,3}^2 h_{2,1}^3 h_{5,1} \\
& + 90 h_{2,2} h_{0,3} h_{2,1}^4 h_{3,3} + 160 h_{2,2} h_{1,2}^4 h_{2,1} h_{5,1} + 240 h_{2,2} h_{1,2}^2 h_{2,1}^3 h_{3,3} + 24 h_{2,1} h_{2,2}^2 h_{3,2} h_{4,1} \\
& - 960 h_{0,3} h_{1,2} h_{2,1}^3 h_{2,2}^3 - 48 h_{2,2} h_{0,3} h_{2,1}^3 h_{5,2} - 64 h_{2,2} h_{1,2}^3 h_{2,1} h_{6,1} - 96 h_{2,2} h_{1,2}^2 h_{2,1}^2 h_{5,2} \\
& - 32 h_{2,2} h_{1,4} h_{2,1}^3 h_{4,1} + 18 h_{2,2} h_{0,3} h_{2,1}^2 h_{7,1} + 24 h_{2,2} h_{1,2}^2 h_{2,1} h_{7,1} + 24 h_{2,2} h_{1,2}^2 h_{4,1} h_{5,1} \\
& + 18 h_{2,2} h_{1,3} h_{2,1} h_{4,1}^2 + 18 h_{2,2} h_{2,1}^2 h_{3,3} h_{4,1} - 8 h_{2,2} h_{1,2} h_{4,1} h_{6,1} - 8 h_{2,2} h_{2,1} h_{4,1} h_{5,2}
\end{aligned}$$

$$\begin{aligned}
& +1890 h_{2,2} h_{3,1} h_{0,3}^3 h_{2,1}^4 - 8 h_{2,2} h_{3,1} h_{4,1} h_{4,2} + 896 h_{2,2} h_{3,1} h_{1,2}^6 h_{2,1} + 160 h_{2,2} h_{3,1} h_{1,2}^4 h_{4,1} \\
& -64 h_{2,2} h_{3,1} h_{1,2}^3 h_{5,1} + 24 h_{2,2} h_{3,1} h_{1,2}^2 h_{6,1} + 12 h_{0,4} h_{2,1} h_{3,1} h_{4,1}^2 - 20 h_{0,5} h_{2,1}^3 h_{3,1} h_{4,1} \\
& +4 h_{2,1}^3 h_{3,1} h_{4,4} + 6 h_{2,1}^2 h_{3,1}^2 h_{3,4} + 4 h_{2,1} h_{2,4} h_{3,1}^3 - 3 h_{2,1}^2 h_{3,1} h_{6,3} - 3 h_{2,1} h_{3,1}^2 h_{5,3} \\
& +2 h_{2,1} h_{3,1} h_{8,2} + 6 h_{0,6} h_{2,1}^5 h_{3,1} - 10 h_{0,5} h_{2,1}^2 h_{3,1}^3 - 10 h_{1,5} h_{2,1}^3 h_{3,1}^2 - 5 h_{2,1}^4 h_{2,5} h_{3,1} \\
& -36 h_{0,3} h_{2,1} h_{2,3} h_{3,1}^3 + 18 h_{0,3} h_{2,1} h_{3,1}^2 h_{5,2} - 54 h_{0,3}^2 h_{2,1} h_{3,1}^2 h_{5,1} + 18 h_{2,1}^2 h_{2,3} h_{3,2} h_{4,1} \\
& -48 h_{3,2} h_{0,4} h_{2,1}^2 h_{3,1}^2 - 32 h_{3,2} h_{1,4} h_{2,1}^3 h_{3,1} + 18 h_{3,2} h_{0,3} h_{3,1}^2 h_{4,1} + 18 h_{3,2} h_{2,1}^2 h_{3,1} h_{3,3} \\
& +18 h_{3,2} h_{2,1} h_{2,3} h_{3,1}^2 - 8 h_{3,2} h_{2,1} h_{3,1} h_{5,2} + 60 h_{0,3} h_{2,1}^4 h_{2,4} h_{3,1} - 90 h_{0,3} h_{2,1}^5 h_{0,5} h_{3,1} \\
& +120 h_{0,3} h_{2,1}^3 h_{1,4} h_{3,1}^2 + 60 h_{0,3} h_{2,1}^4 h_{1,4} h_{4,1} + 90 h_{0,3} h_{2,1}^4 h_{2,3} h_{3,2} - 36 h_{0,3} h_{2,1}^3 h_{2,3} h_{5,1} \\
& -36 h_{0,3} h_{2,1}^3 h_{3,3} h_{4,1} - 36 h_{0,3} h_{2,1}^3 h_{3,1} h_{4,3} + 180 h_{0,3}^2 h_{2,1}^3 h_{3,2} h_{4,1} + 18 h_{0,3} h_{2,1}^2 h_{4,1} h_{5,2} \\
& +18 h_{0,3} h_{2,1}^2 h_{3,1} h_{6,2} - 72 h_{0,3} h_{2,1}^2 h_{3,1} h_{3,2}^2 + 18 h_{0,3} h_{2,1}^2 h_{3,2} h_{6,1} - 54 h_{0,3} h_{2,1}^2 h_{3,1}^2 h_{3,3} \\
& +120 h_{0,3} h_{2,1}^2 h_{0,4} h_{3,1}^3 - 54 h_{0,3}^2 h_{2,1}^2 h_{4,1} h_{5,1} + 270 h_{0,3}^2 h_{2,1}^2 h_{3,1}^2 h_{3,2} - 54 h_{0,3}^2 h_{2,1}^2 h_{3,1} h_{6,1} \\
& -540 h_{0,3}^3 h_{2,1}^3 h_{3,1} h_{4,1} - 405 h_{0,3}^2 h_{2,1}^4 h_{2,3} h_{3,1} + 160 h_{0,4} h_{2,1}^3 h_{1,2}^2 h_{5,1} + 80 h_{0,4} h_{2,1}^4 h_{2,2} h_{3,2} \\
& +60 h_{0,4} h_{2,1}^4 h_{2,3} h_{3,1} + 160 h_{0,4} h_{2,1}^3 h_{2,2} h_{3,1} - 32 h_{0,4} h_{2,1}^3 h_{1,2} h_{6,1} - 32 h_{0,4} h_{2,1}^3 h_{2,2} h_{5,1} \\
& -32 h_{0,4} h_{2,1}^3 h_{3,2} h_{4,1} - 8 h_{2,1} h_{4,2} h_{1,2} h_{6,1} + 36 h_{2,2} h_{3,1} h_{1,3} h_{2,1} h_{5,1} + 18 h_{2,1} h_{4,2} h_{1,3} h_{3,1}^2 \\
& +24 h_{2,1}^2 h_{4,2} h_{2,2} h_{3,2} + 18 h_{2,1}^2 h_{4,2} h_{2,3} h_{3,1} + 24 h_{2,1} h_{4,2} h_{2,2}^2 h_{3,1} + 36 h_{2,2} h_{3,1} h_{0,3} h_{2,1} h_{6,1} \\
& -8 h_{2,1} h_{4,2} h_{2,2} h_{5,1} - 8 h_{2,1} h_{4,2} h_{3,2} h_{4,1} - 2016 h_{0,4} h_{2,1}^6 h_{0,3}^2 h_{1,2} - 5376 h_{0,4} h_{2,1}^5 h_{0,3} h_{1,2}^3 \\
& +756 h_{0,4} h_{2,1}^5 h_{0,3}^2 h_{3,1} + 2240 h_{0,4} h_{2,1}^3 h_{1,2}^4 h_{3,1} + 2240 h_{0,4} h_{2,1}^4 h_{1,2}^3 h_{2,2} - 144 h_{0,4} h_{2,1}^5 h_{0,3} h_{3,2} \\
& -640 h_{0,4} h_{2,1}^3 h_{1,2}^3 h_{4,1} - 480 h_{0,4} h_{2,1}^4 h_{1,2}^2 h_{3,2} - 144 h_{0,4} h_{2,1}^5 h_{1,2} h_{2,3} - 480 h_{0,4} h_{2,1}^4 h_{1,2} h_{2,2}^2 \\
& +60 h_{0,4} h_{2,1}^4 h_{0,3} h_{5,1} - 540 h_{1,3} h_{2,1}^4 h_{1,2}^2 h_{2,3} - 540 h_{2,1}^4 h_{4,2} h_{0,3}^2 h_{1,2} - 960 h_{2,1}^3 h_{4,2} h_{0,3} h_{1,2}^3 \\
& +180 h_{2,1}^3 h_{4,2} h_{0,3}^2 h_{3,1} + 80 h_{2,1}^4 h_{4,2} h_{0,4} h_{1,2} + 160 h_{2,1} h_{4,2} h_{1,2}^4 h_{3,1} + 320 h_{2,1}^2 h_{4,2} h_{1,2}^3 h_{2,2} \\
& -48 h_{2,1}^3 h_{4,2} h_{0,3} h_{3,2} - 32 h_{2,1}^3 h_{4,2} h_{0,4} h_{3,1} - 64 h_{2,1} h_{4,2} h_{1,2}^3 h_{4,1} - 96 h_{2,1}^2 h_{4,2} h_{1,2}^2 h_{3,2} \\
& -48 h_{2,1}^3 h_{4,2} h_{1,2} h_{2,3} - 96 h_{2,1}^2 h_{4,2} h_{1,2} h_{2,2}^2 + 18 h_{2,1}^2 h_{4,2} h_{0,3} h_{5,1} + 24 h_{2,1} h_{4,2} h_{1,2}^2 h_{5,1} \\
& -405 h_{1,3} h_{2,1}^4 h_{0,3}^2 h_{4,1} - 540 h_{1,3} h_{2,1}^4 h_{0,3} h_{2,2}^2 + 90 h_{1,3} h_{2,1}^4 h_{0,3} h_{4,2} - 36 h_{1,3} h_{2,1}^3 h_{0,3} h_{6,1} \\
& 1008 h_{1,3} h_{2,1}^5 h_{0,4} h_{1,2}^2 - 144 h_{1,3} h_{2,1}^5 h_{0,4} h_{2,2} + 60 h_{1,3} h_{2,1}^4 h_{0,4} h_{4,1} - 144 h_{1,3} h_{2,1}^5 h_{1,2} h_{1,4} \\
& +60 h_{1,3} h_{2,1}^4 h_{1,4} h_{3,1} + 90 h_{1,3} h_{2,1}^4 h_{1,2} h_{3,3} - 36 h_{1,3} h_{2,1}^3 h_{3,1} h_{3,3} + 120 h_{1,3} h_{2,1}^3 h_{0,4} h_{3,1}^2 \\
& +240 h_{1,3} h_{2,1}^3 h_{1,2}^2 h_{4,2} - 48 h_{1,3} h_{2,1}^3 h_{2,2} h_{4,2} + 3360 h_{1,3} h_{2,1}^3 h_{1,2}^4 h_{2,2} - 1440 h_{1,3} h_{2,1}^3 h_{1,2}^2 h_{2,2}^2 \\
& -48 h_{1,3} h_{2,1}^3 h_{1,2} h_{5,2} + 270 h_{1,3}^2 h_{2,1}^2 h_{1,2} h_{3,1}^2 - 54 h_{1,3}^2 h_{2,1}^2 h_{3,1} h_{4,1} - 162 h_{1,3} h_{2,1}^5 h_{0,3} h_{2,3} \\
& -960 h_{1,3} h_{2,1}^3 h_{1,2}^3 h_{3,2} + 180 h_{1,3}^2 h_{2,1}^3 h_{1,2} h_{4,1} + 180 h_{1,3}^2 h_{2,1}^3 h_{2,2} h_{3,1} + 18 h_{1,3} h_{2,1}^2 h_{4,1} h_{4,2} \\
& -72 h_{1,3} h_{2,1}^2 h_{2,2}^2 h_{4,1} + 18 h_{1,3} h_{2,1}^2 h_{2,2} h_{6,1} - 54 h_{1,3} h_{2,1}^2 h_{2,3} h_{3,1}^2 + 2016 h_{1,3} h_{2,1}^2 h_{1,2}^5 h_{3,1} \\
& -720 h_{1,3} h_{2,1}^2 h_{1,2}^4 h_{4,1} + 240 h_{1,3} h_{2,1}^2 h_{1,2}^3 h_{5,1} - 72 h_{1,3} h_{2,1}^2 h_{1,2}^2 h_{6,1} - 405 h_{1,3}^2 h_{2,1}^4 h_{0,3} h_{3,1} \\
& -54 h_{1,3} h_{2,1}^2 h_{0,3} h_{4,1}^2 + 18 h_{1,3} h_{2,1}^2 h_{3,2} h_{5,1} + 18 h_{1,3} h_{2,1}^2 h_{3,1} h_{5,2} - 810 h_{1,3} h_{2,1}^3 h_{0,3}^2 h_{3,1}^2
\end{aligned}$$

$$\begin{aligned}
& -36 h_{1,3} h_{2,1}^3 h_{2,3} h_{4,1} - 9072 h_{1,3} h_{2,1}^5 h_{0,3}^2 h_{1,2}^2 - 10080 h_{1,3} h_{2,1}^4 h_{0,3} h_{1,2}^4 + 90 h_{1,3} h_{2,1}^4 h_{2,2} h_{2,3} \\
& + 1134 h_{1,3} h_{2,1}^5 h_{0,3}^2 h_{2,2} + 252 h_{1,3} h_{2,1}^6 h_{0,3} h_{0,4} + 1134 h_{1,3}^2 h_{2,1}^5 h_{0,3} h_{1,2} + 18 h_{1,3} h_{2,1}^2 h_{1,2} h_{7,1} \\
& - 1080 h_{1,3}^2 h_{2,1}^3 h_{1,2}^2 h_{3,1} - 540 h_{1,3}^2 h_{2,1}^4 h_{1,2} h_{2,2} + 12 h_{1,4} h_{2,1} h_{3,1}^2 h_{4,1} + 12 h_{2,1}^2 h_{2,4} h_{3,1} h_{4,1} \\
& - 6 h_{2,1} h_{3,1} h_{4,1} h_{4,3} - 6 h_{1,3} h_{3,1} h_{4,1} h_{5,1} - 6 h_{2,1} h_{2,3} h_{4,1} h_{5,1} - 108 h_{0,3} h_{1,3} h_{2,1} h_{3,1}^2 h_{4,1} \\
& + 12 h_{1,4} h_{2,1}^2 h_{3,1} h_{5,1} + 36 h_{3,2} h_{1,3} h_{2,1} h_{3,1} h_{4,1} + 12 h_{0,4} h_{2,1}^2 h_{4,1} h_{5,1} + 12 h_{0,4} h_{2,1} h_{3,1}^2 h_{5,1} \\
& + 18 h_{2,1} h_{3,2} h_{0,3} h_{4,1}^2 - 6 h_{0,3} h_{2,1} h_{4,1} h_{7,1} - 6 h_{0,3} h_{2,1} h_{5,1} h_{6,1} - 6 h_{1,3} h_{2,1} h_{3,1} h_{7,1} - h_{3,5} h_{2,1}^5 \\
& + 36 h_{3,2} h_{0,3} h_{2,1} h_{3,1} h_{5,1} - 6 h_{1,3} h_{2,1} h_{4,1} h_{6,1} + 12 h_{0,4} h_{2,1}^2 h_{3,1} h_{6,1} - 54 h_{0,3}^2 h_{2,1} h_{3,1} h_{4,1}^2 \\
& - 6 h_{2,1} h_{3,1} h_{3,3} h_{5,1} - 6 h_{0,3} h_{2,1} h_{3,1} h_{8,1} - 6 h_{0,3} h_{3,1} h_{4,1} h_{6,1} - 6 h_{2,1} h_{2,3} h_{3,1} h_{6,1} + 16 h_{1,2}^5 h_{4,1}^2 \\
& - 108 h_{0,3} h_{2,1}^2 h_{2,3} h_{3,1} h_{4,1} + h_{1,4} h_{3,1}^4 - h_{3,1}^3 h_{4,3} + h_{3,1}^2 h_{7,2} - h_{3,1} h_{10,1} + 4 h_{2,1}^2 h_{3,2}^3 + h_{1,2} h_{6,1}^2 \\
& - h_{6,1} h_{7,1} + h_{3,2} h_{5,1}^2 - h_{5,1} h_{8,1} - h_{1,3} h_{4,1}^3 + h_{4,1}^2 h_{5,2} - h_{4,1} h_{9,1} + 4 h_{1,2}^3 h_{5,1}^2 + 256 h_{1,2}^9 h_{2,1}^2 \\
& + 64 h_{1,2}^7 h_{3,1}^2 + h_{5,4} h_{2,1}^4 + h_{1,6} h_{2,1}^6 + h_{9,2} h_{2,1}^2 - h_{7,3} h_{2,1}^3 + h_{13,0}, \\
h_{14} = & -270 h_{2,3}^2 h_{2,1}^4 h_{1,2}^2 - 27 h_{2,3}^2 h_{2,1}^2 h_{3,1}^2 - 1792 h_{2,3} h_{2,1}^3 h_{1,2}^6 + 4608 h_{1,3} h_{2,1}^3 h_{1,2}^7 \\
& - 270 h_{1,3}^2 h_{2,1}^4 h_{2,2}^2 - 27 h_{1,3}^2 h_{2,1}^2 h_{4,1}^2 - 1134 h_{1,3}^2 h_{2,1}^6 h_{0,3}^2 - 5040 h_{1,3}^2 h_{2,1}^4 h_{1,2}^4 \\
& - 896 h_{0,4}^2 h_{2,1}^6 h_{1,2}^2 - 120 h_{0,4}^2 h_{2,1}^4 h_{3,1}^2 + 5376 h_{0,4} h_{2,1}^4 h_{1,2}^6 - 34020 h_{0,3}^4 h_{2,1}^6 h_{1,2}^2 \\
& - 90720 h_{0,3}^3 h_{2,1}^5 h_{1,2}^4 - 60480 h_{0,3}^2 h_{2,1}^4 h_{1,2}^6 - 2835 h_{0,3}^4 h_{2,1}^4 h_{3,1}^2 - 135 h_{0,3}^3 h_{2,1} h_{3,1}^4 \\
& - 11520 h_{0,3} h_{2,1}^3 h_{1,2}^8 - 270 h_{0,3}^2 h_{1,2}^2 h_{3,1}^4 - 27 h_{0,3}^2 h_{3,1}^2 h_{4,1}^2 + 672 h_{0,3} h_{1,2}^5 h_{3,1}^3 \\
& + 3402 h_{0,3}^4 h_{2,1}^6 h_{2,2} - 3024 h_{0,3}^3 h_{2,1}^5 h_{2,2}^2 + 1260 h_{0,3}^2 h_{2,1}^4 h_{2,2}^3 - 270 h_{0,3}^3 h_{2,1}^2 h_{4,1}^2 \\
& - 270 h_{0,3}^2 h_{2,1}^4 h_{3,2}^2 - 81 h_{0,3}^2 h_{2,1}^5 h_{4,3} - 180 h_{0,3}^2 h_{2,1}^7 h_{0,5} + 45 h_{0,3}^2 h_{2,1}^4 h_{6,2} \\
& + 126 h_{0,3}^2 h_{2,1}^6 h_{2,4} + 1296 h_{0,3}^3 h_{2,1}^7 h_{0,4} - 1134 h_{0,3}^4 h_{2,1}^5 h_{4,1} + 378 h_{0,3}^3 h_{2,1}^5 h_{4,2} \\
& - 135 h_{0,3}^3 h_{2,1}^4 h_{6,1} - 756 h_{0,3}^3 h_{2,1}^6 h_{2,3} - 18 h_{0,3}^2 h_{2,1}^3 h_{8,1} - 3584 h_{1,2}^6 h_{2,1}^2 h_{2,2}^2 \\
& - 240 h_{0,3} h_{2,1}^3 h_{2,2}^4 - 27 h_{0,3}^2 h_{2,1}^2 h_{5,1}^2 + 4 h_{1,4} h_{3,1}^3 h_{4,1} + 6 h_{1,3} h_{3,1}^3 h_{4,2} - 3 h_{3,1} h_{1,3} h_{5,1}^2 \\
& - 3 h_{1,3} h_{3,1}^2 h_{7,1} + 12 h_{1,2}^2 h_{3,1}^2 h_{6,2} - 24 h_{1,2}^2 h_{3,1}^3 h_{3,3} - 18 h_{0,3}^2 h_{3,1}^3 h_{5,1} - 3 h_{0,3} h_{3,1}^2 h_{8,1} \\
& - 9 h_{0,3} h_{2,3} h_{3,1}^4 + 6 h_{0,3} h_{3,1}^3 h_{5,2} + 80 h_{1,2}^3 h_{2,3} h_{3,1}^3 - 240 h_{1,2}^4 h_{1,3} h_{3,1}^3 - 192 h_{3,2} h_{1,2}^5 h_{3,1}^2 \\
& - 480 h_{1,2}^4 h_{2,2}^2 h_{3,1}^2 + 160 h_{1,2}^2 h_{2,2}^3 h_{3,1}^2 + 6 h_{3,2} h_{2,3} h_{3,1}^3 - 4 h_{3,2} h_{3,1}^2 h_{5,2} - 24 h_{1,3} h_{2,2}^2 h_{3,1}^3 \\
& - 10 h_{2,1}^3 h_{2,5} h_{3,1}^2 - 3 h_{3,1}^2 h_{4,1} h_{4,3} - 64 h_{3,1} h_{1,2}^6 h_{5,1} + 32 h_{3,1} h_{1,2}^5 h_{6,1} - 16 h_{3,1} h_{1,2}^4 h_{7,1} \\
& + 126 h_{0,4} h_{2,1}^6 h_{1,3}^2 - 4 h_{3,1} h_{1,2}^2 h_{9,1} + 2 h_{3,1} h_{1,2} h_{10,1} + 2 h_{3,1} h_{3,2} h_{8,1} + 8 h_{3,1} h_{2,1} h_{3,2}^3 \\
& + 8 h_{3,1} h_{2,2}^3 h_{5,1} - 4 h_{3,1} h_{2,2}^2 h_{7,1} + 112 h_{0,4}^2 h_{2,1}^6 h_{2,2} + 4 h_{3,1} h_{5,4} h_{2,1}^3 + 6 h_{3,1} h_{1,6} h_{2,1}^5 \\
& - 3 h_{3,1} h_{7,3} h_{2,1}^2 - 5 h_{3,1} h_{3,5} h_{2,1}^4 + 2 h_{3,1} h_{9,2} h_{2,1} + 2240 h_{1,2}^4 h_{2,1}^2 h_{2,2}^3 - 3 h_{3,1} h_{3,3} h_{4,1}^2 \\
& + 448 h_{2,2} h_{1,2}^6 h_{3,1}^2 + 2 h_{3,1} h_{5,1} h_{6,2} + 2 h_{3,1} h_{4,2} h_{7,1} - 135 h_{3,1} h_{1,3}^3 h_{2,1}^4 + 8 h_{3,1} h_{1,2}^3 h_{8,1} \\
& + 512 h_{3,1} h_{1,2}^9 h_{2,1} + 2 h_{3,1} h_{4,1} h_{7,2} + 45 h_{2,2} h_{0,3}^2 h_{3,1}^4 - 4 h_{2,2} h_{3,1}^2 h_{6,2} + 12 h_{2,2} h_{3,1}^2 h_{2,2}^2 \\
& + 6 h_{2,2} h_{3,1}^3 h_{3,3} - 8 h_{2,2} h_{0,4} h_{3,1}^4 + 12 h_{2,2}^2 h_{3,1}^2 h_{4,2} + 40 h_{1,2}^2 h_{0,4} h_{3,1}^4 - 32 h_{1,2}^3 h_{3,1}^2 h_{5,2}
\end{aligned}$$

$$\begin{aligned}
& +2 h_{3,1} h_{2,2} h_{9,1} + 80 h_{1,2}^4 h_{3,1}^2 h_{4,2} - 160 h_{0,4} h_{2,1}^4 h_{2,2}^3 + 40 h_{0,4} h_{2,1}^4 h_{3,2}^2 + 12 h_{0,4} h_{2,1}^5 h_{4,3} \\
& +20 h_{0,4} h_{2,1}^7 h_{0,5} - 8 h_{0,4} h_{2,1}^4 h_{6,2} - 16 h_{0,4} h_{2,1}^6 h_{2,4} - 192 h_{0,4}^2 h_{2,1}^7 h_{0,3} - 4 h_{3,1} h_{3,2}^2 h_{5,1} \\
& -48 h_{0,4}^2 h_{2,1}^5 h_{4,1} + 4 h_{0,4} h_{2,1}^3 h_{8,1} + 2 h_{3,1} h_{5,2} h_{6,1} - 480 h_{1,2}^2 h_{2,1}^2 h_{2,2}^4 - 18 h_{0,3}^2 h_{2,1} h_{4,1}^3 \\
& -3 h_{5,1} h_{5,3} h_{2,1}^2 + 80 h_{2,1}^3 h_{2,2}^3 h_{2,3} - 32 h_{2,1}^2 h_{2,2}^3 h_{4,2} - 48 h_{2,1}^2 h_{2,2}^2 h_{3,2}^2 - 24 h_{2,1}^3 h_{2,2}^2 h_{4,3} \\
& -60 h_{2,1}^5 h_{2,2}^2 h_{0,5} + 12 h_{2,1}^2 h_{2,2}^2 h_{6,2} + 40 h_{2,1}^4 h_{2,2}^2 h_{2,4} + 6 h_{2,1}^3 h_{2,2}^2 h_{6,3} - 12 h_{2,1}^6 h_{2,2} h_{0,6} \\
& +10 h_{2,1}^5 h_{2,2} h_{2,5} - 8 h_{2,1}^4 h_{2,2} h_{4,4} - 4 h_{2,1}^2 h_{2,2} h_{8,2} + 45 h_{2,1}^4 h_{2,2} h_{2,3}^2 + 12 h_{2,1}^2 h_{2,2} h_{4,2}^2 \\
& -4 h_{2,1} h_{2,2}^2 h_{8,1} - 16 h_{2,1} h_{2,2}^4 h_{4,1} + 8 h_{2,1} h_{2,2}^3 h_{6,1} + 2 h_{2,1} h_{2,2} h_{10,1} + 378 h_{1,3}^3 h_{2,1}^5 h_{1,2} \\
& +2304 h_{2,2} h_{1,2}^8 h_{2,1}^2 - 5 h_{5,1} h_{1,5} h_{2,1}^4 + 2 h_{5,1} h_{7,2} h_{2,1} + 4 h_{5,1} h_{3,4} h_{2,1}^3 + 2 h_{5,1} h_{1,2} h_{8,1} \\
& +128 h_{5,1} h_{1,2}^7 h_{2,1} + 32 h_{5,1} h_{1,2}^5 h_{4,1} + 8 h_{5,1} h_{1,2}^3 h_{6,1} - 4 h_{5,1} h_{1,2}^2 h_{7,1} + 2 h_{5,1} h_{4,1} h_{5,2} \\
& +2 h_{5,1} h_{3,2} h_{6,1} + 2 h_{5,1} h_{2,2} h_{7,1} - 3 h_{5,1} h_{1,3} h_{4,1}^2 + 12 h_{1,2}^2 h_{2,2} h_{5,1}^2 - 3 h_{0,3} h_{4,1} h_{5,1}^2 \\
& -4 h_{1,2} h_{3,2} h_{5,1}^2 - 3 h_{2,1} h_{2,3} h_{5,1}^2 + 6 h_{0,4} h_{2,1}^2 h_{5,1}^2 - 10 h_{0,5} h_{2,1}^3 h_{4,1}^2 + 6 h_{2,1}^2 h_{2,4} h_{4,1}^2 \\
& -4 h_{2,2} h_{4,1}^2 h_{4,2} + 80 h_{2,2} h_{1,2}^4 h_{4,1} + 6 h_{2,2} h_{0,3} h_{4,1}^3 - 4 h_{1,2} h_{4,1}^2 h_{5,2} - 48 h_{1,2}^2 h_{2,2}^2 h_{4,1}^2 \\
& +6 h_{1,2} h_{1,3} h_{4,1}^3 - 3 h_{2,1} h_{4,1}^2 h_{4,3} + 4 h_{0,4} h_{2,1} h_{4,1}^3 - 1024 h_{1,2}^7 h_{2,1}^2 h_{3,2} - 32 h_{1,2}^3 h_{3,2} h_{2,1}^2 \\
& +12 h_{1,2}^2 h_{4,1}^2 h_{4,2} - 24 h_{1,2}^2 h_{0,3} h_{4,1}^3 - 3 h_{4,1} h_{6,3} h_{2,1}^2 + 6 h_{4,1} h_{0,6} h_{2,1}^5 - 5 h_{4,1} h_{2,5} h_{2,1}^4 \\
& +4 h_{4,1} h_{4,4} h_{2,1}^3 + 2 h_{4,1} h_{8,2} h_{2,1} - 256 h_{4,1} h_{1,2}^8 h_{2,1} - 16 h_{4,1} h_{1,2}^4 h_{6,1} - 160 h_{1,2}^3 h_{2,1}^4 h_{3,4} \\
& +8 h_{4,1} h_{1,2}^3 h_{7,1} + 2 h_{4,1} h_{1,2} h_{9,1} - 18 h_{4,1} h_{2,1}^3 h_{2,3}^2 + 2 h_{4,1} h_{3,2} h_{7,1} - 4 h_{4,1} h_{2,1} h_{4,2}^2 \\
& +2 h_{4,1} h_{4,2} h_{6,1} + 2 h_{4,1} h_{2,2} h_{8,1} - 4 h_{4,1} h_{2,2}^2 h_{6,1} - 1120 h_{0,5} h_{1,2}^4 h_{2,1}^5 - 3 h_{0,3} h_{4,1}^2 h_{6,1} \\
& -240 h_{1,2}^4 h_{2,1}^3 h_{4,3} - 4 h_{4,1} h_{1,2}^2 h_{8,1} - 480 h_{1,2}^4 h_{2,1}^2 h_{3,2}^2 - 60 h_{1,2}^2 h_{2,1}^5 h_{2,5} - 5 h_{6,1} h_{0,5} h_{2,1}^4 \\
& -12 h_{1,2} h_{1,6} h_{2,1}^6 + 32 h_{1,2}^5 h_{2,1} h_{7,1} + 80 h_{1,2}^4 h_{2,1}^2 h_{6,2} + 80 h_{1,2}^3 h_{2,1}^3 h_{5,3} - 3 h_{6,1} h_{4,3} h_{2,1}^2 \\
& +40 h_{1,2}^2 h_{2,1}^4 h_{4,4} + 10 h_{1,2} h_{2,1}^5 h_{3,5} - 16 h_{1,2}^4 h_{2,1} h_{8,1} - 32 h_{1,2}^3 h_{2,1}^2 h_{7,2} - 4 h_{6,1} h_{2,1} h_{3,2}^2 \\
& -24 h_{1,2}^2 h_{2,1}^3 h_{6,3} - 48 h_{1,2}^2 h_{2,1}^2 h_{4,2}^2 - 8 h_{1,2} h_{2,1}^4 h_{5,4} - 32 h_{1,2} h_{2,1}^2 h_{3,2}^3 + 2 h_{6,1} h_{1,2} h_{7,1} \\
& +8 h_{1,2}^3 h_{2,1} h_{9,1} + 12 h_{1,2}^2 h_{2,1}^2 h_{8,2} + 6 h_{1,2} h_{2,1}^3 h_{7,3} - 4 h_{1,2}^2 h_{2,1} h_{10,1} - 4 h_{1,2} h_{2,1}^2 h_{9,2} \\
& +2 h_{1,2} h_{2,1} h_{11,1} + 560 h_{1,2}^4 h_{2,1}^4 h_{2,4} - 18 h_{6,1} h_{1,3}^2 h_{2,1}^3 + 2 h_{6,1} h_{6,2} h_{2,1} + 4 h_{6,1} h_{2,4} h_{2,1}^3 \\
& -15 h_{0,5} h_{2,1}^6 h_{2,3} - 81 h_{1,3}^2 h_{2,1}^5 h_{2,3} + 10 h_{0,5} h_{2,1}^5 h_{4,2} - 8 h_{2,1}^4 h_{2,4} h_{4,2} + 45 h_{1,3}^2 h_{2,1}^4 h_{4,2} \\
& +448 h_{1,2}^6 h_{2,1}^2 h_{4,2} - 3 h_{0,3} h_{2,1} h_{6,1}^2 - 24 h_{0,3} h_{2,1}^3 h_{4,2}^2 - 9 h_{2,1}^4 h_{2,3} h_{4,3} - 24 h_{2,1}^3 h_{2,3} h_{3,2}^2 \\
& +18 h_{5,1} h_{1,3} h_{2,1}^2 h_{4,2} - 6 h_{5,1} h_{1,3} h_{2,1} h_{6,1} - 6 h_{5,1} h_{2,1} h_{3,3} h_{4,1} + 18 h_{1,2} h_{2,1} h_{3,3} h_{4,1}^2 \\
& +160 h_{5,1} h_{1,2}^4 h_{2,1} h_{3,2} - 8 h_{5,1} h_{2,2} h_{3,2} h_{4,1} + 24 h_{5,1} h_{1,2}^2 h_{2,1} h_{5,2} - 48 h_{1,2} h_{1,4} h_{2,1}^2 h_{4,1}^2 \\
& -72 h_{1,2}^2 h_{2,1} h_{2,3} h_{4,1}^2 + 240 h_{1,2}^2 h_{0,4} h_{2,1}^2 h_{4,1}^2 + 24 h_{2,2} h_{1,2} h_{3,2} h_{4,1}^2 + 18 h_{1,2} h_{1,3} h_{2,1} h_{5,1}^2 \\
& +12 h_{2,1}^5 h_{2,3} h_{2,4} + 84 h_{0,6} h_{1,2}^2 h_{2,1}^6 + 6 h_{2,1}^3 h_{2,3} h_{6,2} - 81 h_{0,3} h_{2,1}^5 h_{2,3}^2 - 64 h_{1,2}^6 h_{2,1} h_{6,1} \\
& -1792 h_{1,2}^5 h_{1,4} h_{2,1}^4 + 672 h_{1,2}^5 h_{2,1}^3 h_{3,3} + 24 h_{5,1} h_{1,2}^2 h_{3,2} h_{4,1} - 64 h_{5,1} h_{1,2}^3 h_{2,2} h_{4,1} \\
& +160 h_{5,1} h_{1,2}^2 h_{1,4} h_{2,1}^3 - 72 h_{5,1} h_{1,2}^2 h_{2,1}^2 h_{3,3} - 64 h_{5,1} h_{1,2}^3 h_{2,1} h_{4,2} + 12 h_{5,1} h_{1,4} h_{2,1}^2 h_{4,1}
\end{aligned}$$

$$\begin{aligned}
& -8 h_{5,1} h_{2,1} h_{3,2} h_{4,2} - 8 h_{5,1} h_{1,2} h_{4,1} h_{4,2} + 24 h_{5,1} h_{1,2} h_{2,2}^2 h_{4,1} - 8 h_{5,1} h_{1,2} h_{2,2} h_{6,1} \\
& + 18 h_{5,1} h_{1,2} h_{0,3} h_{4,1}^2 + 24 h_{5,1} h_{1,2} h_{2,1} h_{3,2}^2 + 18 h_{5,1} h_{1,2} h_{4,3} h_{2,1}^2 + 50 h_{5,1} h_{1,2} h_{0,5} h_{2,1}^4 \\
& - 8 h_{5,1} h_{1,2} h_{6,2} h_{2,1} - 32 h_{5,1} h_{1,2} h_{2,4} h_{2,1}^3 - 36 h_{5,1} h_{1,3} h_{2,1}^3 h_{2,3} + 18 h_{5,1} h_{2,1}^2 h_{2,3} h_{3,2} \\
& + 240 h_{1,3} h_{2,1}^3 h_{1,1} h_{3,2}^2 + 90 h_{1,3} h_{2,1}^4 h_{1,2} h_{4,3} + 210 h_{1,3} h_{2,1}^6 h_{0,5} h_{1,2} - 48 h_{1,3} h_{2,1}^3 h_{1,2} h_{6,2} \\
& - 144 h_{1,3} h_{2,1}^5 h_{1,1} h_{2,4} + 18 h_{1,3} h_{2,1}^2 h_{1,2} h_{8,1} - 540 h_{1,3}^2 h_{2,1}^4 h_{1,2} h_{3,2} + 180 h_{1,3}^2 h_{2,1}^3 h_{1,2} h_{5,1} \\
& - 48 h_{2,1}^3 h_{2,2} h_{3,2} h_{3,3} + 18 h_{2,1}^2 h_{2,2} h_{3,3} h_{5,1} + 18 h_{2,1}^2 h_{2,2} h_{4,1} h_{4,3} - 48 h_{2,1}^2 h_{2,2} h_{0,4} h_{4,1}^2 \\
& + 80 h_{2,1}^4 h_{2,2} h_{1,4} h_{3,2} - 32 h_{2,1}^3 h_{2,2} h_{1,4} h_{5,1} + 24 h_{2,1} h_{2,2} h_{3,2}^2 h_{4,1} - 8 h_{2,1} h_{2,2} h_{3,2} h_{7,1} \\
& + 280 h_{1,2}^3 h_{1,5} h_{2,1}^5 - 192 h_{1,2}^5 h_{2,1}^2 h_{5,2} + 2688 h_{2,2} h_{1,2}^5 h_{2,1}^2 h_{3,2} + 2240 h_{2,2} h_{1,2}^3 h_{1,4} h_{2,1}^4 \\
& - 8 h_{2,1} h_{2,2} h_{4,1} h_{6,2} - 8 h_{2,1} h_{2,2} h_{4,2} h_{6,1} - 8 h_{2,1} h_{2,2} h_{5,1} h_{5,2} + 18 h_{2,1} h_{2,2} h_{2,3} h_{4,1}^2 \\
& + 6 h_{2,1}^3 h_{4,2} h_{4,3} + 12 h_{2,1}^2 h_{3,2}^2 h_{4,2} - 3 h_{2,1}^2 h_{2,3} h_{8,1} - 4 h_{2,1}^2 h_{4,2} h_{6,2} - 15 h_{0,3} h_{2,1}^6 h_{2,5} \\
& + 2 h_{2,1} h_{4,2} h_{8,1} - 15 h_{1,3} h_{1,5} h_{2,1}^6 + 12 h_{1,3} h_{2,1}^5 h_{3,4} + 10 h_{1,5} h_{2,1}^5 h_{3,2} + 12 h_{0,3} h_{2,1}^5 h_{4,4} \\
& - 9 h_{1,3} h_{2,1}^4 h_{5,3} - 8 h_{2,1}^4 h_{3,2} h_{3,4} + 6 h_{1,3} h_{2,1}^3 h_{7,2} + 6 h_{2,1}^3 h_{3,2} h_{5,3} - 9 h_{0,3} h_{2,1}^4 h_{6,3} \\
& - 3 h_{1,3} h_{2,1}^2 h_{9,1} - 4 h_{2,1}^2 h_{3,2} h_{7,2} + 2 h_{2,1} h_{3,2} h_{9,1} + 18 h_{0,3} h_{0,6} h_{2,1}^7 + 6 h_{0,3} h_{2,1}^3 h_{8,2} \\
& - 3 h_{0,3} h_{2,1}^2 h_{10,1} + 50 h_{2,1}^4 h_{2,2} h_{0,5} h_{4,1} - 32 h_{2,1}^3 h_{2,2} h_{2,4} h_{4,1} - 48 h_{2,1}^3 h_{2,2} h_{2,3} h_{4,2} \\
& + 18 h_{2,1}^2 h_{2,2} h_{2,3} h_{6,1} + 24 h_{2,1}^2 h_{2,2} h_{3,2} h_{5,2} + 24 h_{2,1} h_{2,2}^2 h_{4,1} h_{4,2} + 24 h_{2,1} h_{2,2}^2 h_{3,2} h_{5,1} \\
& + 320 h_{1,2}^3 h_{2,1} h_{2,2}^2 h_{5,1} + 480 h_{1,2}^2 h_{2,1}^2 h_{2,2}^2 h_{4,2} + 320 h_{1,2}^2 h_{2,1} h_{2,2}^3 h_{4,1} - 96 h_{1,2}^2 h_{2,1} h_{2,2}^2 h_{6,1} \\
& - 480 h_{1,2} h_{1,4} h_{2,1}^4 h_{2,2}^2 + 240 h_{1,2} h_{2,1}^3 h_{2,2}^2 h_{3,3} + 320 h_{1,2} h_{2,1}^2 h_{2,2}^3 h_{3,2} - 96 h_{1,2} h_{2,1}^2 h_{2,2}^2 h_{5,2} \\
& - 64 h_{1,2} h_{2,1} h_{2,2}^3 h_{5,1} + 24 h_{1,2} h_{2,1} h_{2,2}^2 h_{7,1} - 72 h_{2,1}^2 h_{2,2}^2 h_{2,3} h_{4,1} + 480 h_{2,2} h_{1,2}^2 h_{2,1}^2 h_{3,2}^2 \\
& + 240 h_{2,2} h_{1,2}^2 h_{2,1}^3 h_{4,3} + 840 h_{2,2} h_{0,5} h_{1,2}^2 h_{2,1}^5 - 96 h_{2,2} h_{1,2}^2 h_{2,1}^2 h_{6,2} - 480 h_{2,2} h_{1,2}^2 h_{2,1}^4 h_{2,4} \\
& + 24 h_{2,2} h_{1,2}^2 h_{2,1} h_{8,1} - 48 h_{2,2} h_{1,2} h_{2,1}^3 h_{5,3} - 120 h_{2,2} h_{1,2} h_{2,1}^5 h_{1,5} + 24 h_{2,2} h_{1,2} h_{2,1}^2 h_{7,2} \\
& + 80 h_{2,2} h_{1,2} h_{2,1}^4 h_{3,4} - 8 h_{2,2} h_{1,2} h_{2,1} h_{9,1} - 960 h_{1,2}^4 h_{2,1} h_{2,2}^2 h_{4,1} - 1920 h_{1,2}^3 h_{2,1}^2 h_{2,2}^2 h_{3,2} \\
& - 144 h_{0,4} h_{2,1}^5 h_{0,3} h_{4,2} + 60 h_{0,4} h_{2,1}^4 h_{0,3} h_{6,1} + 80 h_{0,4} h_{2,1}^4 h_{2,2} h_{4,2} - 144 h_{0,4} h_{2,1}^5 h_{1,3} h_{3,2} \\
& + 60 h_{0,4} h_{2,1}^4 h_{1,3} h_{5,1} + 252 h_{0,4} h_{2,1}^6 h_{0,3} h_{2,3} + 160 h_{2,2} h_{1,2}^4 h_{2,1} h_{6,1} + 320 h_{2,2} h_{1,2}^3 h_{2,1}^2 h_{5,2} \\
& - 64 h_{2,2} h_{1,2}^3 h_{2,1} h_{7,1} + 896 h_{2,2} h_{1,2}^6 h_{2,1} h_{4,1} - 384 h_{2,2} h_{1,2}^5 h_{2,1} h_{5,1} - 960 h_{2,2} h_{1,2}^4 h_{2,1}^2 h_{4,2} \\
& - 960 h_{2,2} h_{1,2}^3 h_{2,1}^3 h_{3,3} - 64 h_{3,1} h_{2,2} h_{1,2}^3 h_{6,1} + 24 h_{3,1} h_{2,2} h_{1,2}^2 h_{7,1} - 8 h_{3,1} h_{2,2} h_{4,1} h_{5,2} \\
& - 8 h_{3,1} h_{2,2} h_{4,2} h_{5,1} - 8 h_{3,1} h_{2,2} h_{3,2} h_{6,1} + 18 h_{3,1} h_{2,2} h_{1,3} h_{4,1}^2 + 160 h_{3,1} h_{1,4} h_{2,1}^3 h_{2,2}^2 \\
& + 24 h_{3,1} h_{2,1} h_{2,2}^2 h_{5,2} - 64 h_{3,1} h_{2,1} h_{2,2}^3 h_{3,2} + 2688 h_{3,1} h_{1,2}^5 h_{2,1} h_{2,2}^2 + 160 h_{3,1} h_{1,2} h_{2,1} h_{2,2}^4 \\
& + 240 h_{3,1} h_{1,2}^3 h_{4,3} h_{2,1}^2 + 1400 h_{3,1} h_{1,2}^3 h_{0,5} h_{2,1}^4 - 64 h_{3,1} h_{1,2}^3 h_{6,2} h_{2,1} - 640 h_{3,1} h_{1,2}^3 h_{2,4} h_{2,1}^3 \\
& - 72 h_{3,1} h_{1,2}^2 h_{5,3} h_{2,1}^2 - 300 h_{3,1} h_{1,2}^2 h_{1,5} h_{2,1}^4 + 24 h_{3,1} h_{1,2}^2 h_{7,2} h_{2,1} + 160 h_{3,1} h_{1,2}^2 h_{3,4} h_{2,1}^3 \\
& + 24 h_{3,1} h_{1,2}^2 h_{4,1} h_{5,2} + 24 h_{3,1} h_{1,2}^2 h_{4,2} h_{5,1} - 384 h_{3,1} h_{1,2}^5 h_{2,1} h_{4,2} - 32 h_{0,4} h_{2,1}^3 h_{4,1} h_{4,2} \\
& + 160 h_{0,4} h_{2,1}^3 h_{2,2}^2 h_{4,1} - 32 h_{0,4} h_{2,1}^3 h_{2,2} h_{6,1} - 32 h_{0,4} h_{2,1}^3 h_{3,2} h_{5,1} - 144 h_{0,4} h_{2,1}^5 h_{2,2} h_{2,3}
\end{aligned}$$

$$\begin{aligned}
& +60 h_{0,4} h_{2,1}^4 h_{2,3} h_{4,1} + 180 h_{3,1} h_{3,2} h_{1,3}^2 h_{2,1}^3 - 8 h_{3,1} h_{3,2} h_{4,1} h_{4,2} + 896 h_{3,1} h_{3,2} h_{1,2}^6 h_{2,1} \\
& +160 h_{3,1} h_{3,2} h_{1,2}^4 h_{4,1} - 64 h_{3,1} h_{3,2} h_{1,2}^3 h_{5,1} + 24 h_{3,1} h_{3,2} h_{1,2}^2 h_{6,1} - 8 h_{3,1} h_{3,2} h_{1,2} h_{7,1} \\
& +18 h_{3,1} h_{3,2} h_{4,3} h_{2,1}^2 + 50 h_{3,1} h_{3,2} h_{0,5} h_{2,1}^4 - 8 h_{3,1} h_{3,2} h_{6,2} h_{2,1} - 32 h_{3,1} h_{3,2} h_{2,4} h_{2,1}^3 \\
& -72 h_{3,1} h_{1,3} h_{2,1}^2 h_{3,2}^2 + 320 h_{3,1} h_{1,2}^3 h_{2,1} h_{3,2}^2 + 24 h_{3,1} h_{1,2} h_{3,2}^2 h_{4,1} - 72 h_{3,1} h_{1,2} h_{0,6} h_{2,1}^5 \\
& +50 h_{3,1} h_{1,2} h_{2,5} h_{2,1}^4 - 32 h_{3,1} h_{1,2} h_{4,4} h_{2,1}^3 - 8 h_{3,1} h_{1,2} h_{8,2} h_{2,1} - 8 h_{3,1} h_{1,2} h_{4,1} h_{6,2} \\
& +24 h_{3,1} h_{1,2} h_{2,1} h_{4,2}^2 - 8 h_{3,1} h_{1,2} h_{4,2} h_{6,1} - 8 h_{3,1} h_{1,2} h_{5,1} h_{5,2} - 20 h_{3,1} h_{1,5} h_{2,1}^3 h_{4,1} \\
& +12 h_{3,1} h_{2,1}^2 h_{2,4} h_{5,1} + 12 h_{3,1} h_{2,1}^2 h_{3,4} h_{4,1} + 12 h_{3,1} h_{1,4} h_{2,1} h_{4,1}^2 - 20 h_{3,1} h_{0,5} h_{2,1}^3 h_{5,1} \\
& -6 h_{3,1} h_{2,3} h_{4,1} h_{5,1} - 6 h_{3,1} h_{2,1} h_{3,3} h_{6,1} - 6 h_{3,1} h_{2,1} h_{4,3} h_{5,1} + 18 h_{3,1} h_{1,2} h_{0,3} h_{5,1}^2 \\
& +18 h_{3,1} h_{1,2} h_{2,3} h_{4,1}^2 + 18 h_{3,1} h_{1,2} h_{6,3} h_{2,1}^2 + 18 h_{3,1} h_{2,2} h_{5,3} h_{2,1}^2 + 50 h_{3,1} h_{2,2} h_{1,5} h_{2,1}^4 \\
& -8 h_{3,1} h_{2,2} h_{7,2} h_{2,1} - 32 h_{3,1} h_{2,2} h_{3,4} h_{2,1}^3 - 8 h_{3,1} h_{2,2} h_{1,2} h_{8,1} - 2048 h_{3,1} h_{2,2} h_{1,2}^7 h_{2,1} \\
& -384 h_{3,1} h_{2,2} h_{1,2}^5 h_{4,1} + 160 h_{3,1} h_{2,2} h_{1,2}^4 h_{5,1} - 8 h_{2,1}^4 h_{5,2} h_{1,4} + 6 h_{2,1}^3 h_{5,2} h_{3,3} - \frac{1}{2} h_{7,1}^2 \\
& +24 h_{1,2}^2 h_{2,1} h_{3,2} h_{7,1} + 24 h_{1,2}^2 h_{2,1} h_{4,2} h_{6,1} - 64 h_{1,2}^3 h_{2,1} h_{3,2} h_{6,1} - 96 h_{1,2}^2 h_{2,1}^2 h_{3,2} h_{5,2} \\
& -32 h_{1,2} h_{1,4} h_{2,1}^3 h_{6,1} - 48 h_{1,2} h_{2,1}^3 h_{3,2} h_{4,3} - 48 h_{1,2} h_{2,1}^3 h_{3,3} h_{4,2} + 80 h_{1,2} h_{1,4} h_{2,1}^4 h_{4,2} \\
& +80 h_{1,2} h_{2,1}^4 h_{2,4} h_{3,2} + 320 h_{2,2} h_{1,2} h_{1,4} h_{2,1}^3 h_{4,1} - 144 h_{2,2} h_{1,2} h_{2,1}^2 h_{3,3} h_{4,1} - 8 h_{1,4}^2 h_{2,1}^6 \\
& +36 h_{0,3} h_{2,1} h_{1,2} h_{5,1} h_{6,1} - h_{0,7} h_{2,1}^7 + 36 h_{0,3} h_{2,1} h_{3,2} h_{4,1} h_{5,1} + 36 h_{0,3} h_{2,1} h_{2,2} h_{4,1} h_{6,1} \\
& -144 h_{0,3} h_{2,1}^2 h_{2,2} h_{3,2} h_{5,1} + 360 h_{0,3} h_{2,1}^3 h_{2,2} h_{2,3} h_{4,1} - 720 h_{0,3} h_{2,1}^4 h_{2,2} h_{0,4} h_{4,1} - h_{4,5} h_{2,1}^5 \\
& +480 h_{0,3} h_{1,2}^3 h_{2,1} h_{4,1} h_{5,1} + 720 h_{0,3} h_{1,2}^2 h_{2,1} h_{2,2} h_{4,1}^2 + 720 h_{0,3} h_{1,2}^2 h_{2,2} h_{3,1}^2 h_{4,1} + h_{2,6} h_{2,1}^6 \\
& -144 h_{0,3} h_{1,2}^2 h_{3,1} h_{4,1} h_{5,1} - 144 h_{0,3} h_{1,2} h_{2,1} h_{3,2} h_{4,1}^2 - 144 h_{0,3} h_{1,2} h_{2,2} h_{3,1}^2 h_{5,1} - h_{4,1} h_{10,1} \\
& -144 h_{0,3} h_{1,2} h_{2,2} h_{3,1} h_{4,1}^2 - 144 h_{0,3} h_{1,2} h_{3,1}^2 h_{3,2} h_{4,1} + 36 h_{0,3} h_{1,2} h_{2,1} h_{4,1} h_{7,1} + 4 h_{2,2}^3 h_{4,1}^2 \\
& +240 h_{1,2}^2 h_{2,1}^3 h_{3,2} h_{3,3} - 120 h_{0,5} h_{1,2} h_{2,1}^5 h_{3,2} - 480 h_{1,2}^2 h_{1,4} h_{2,1}^4 h_{3,2} + 18 h_{6,1} h_{1,3} h_{2,1}^2 h_{3,2} \\
& -8 h_{1,2} h_{2,1} h_{4,2} h_{7,1} - 8 h_{1,2} h_{2,1} h_{5,2} h_{6,1} + 18 h_{6,1} h_{0,3} h_{2,1}^2 h_{4,2} + 24 h_{1,2} h_{2,1}^2 h_{3,2} h_{6,2} \\
& +320 h_{1,2}^3 h_{2,1}^2 h_{3,2} h_{4,2} - 36 h_{6,1} h_{0,3} h_{2,1}^3 h_{2,3} + 18 h_{1,2} h_{2,1}^2 h_{3,3} h_{6,1} + 24 h_{1,2} h_{2,1}^2 h_{4,2} h_{5,2} \\
& +2 h_{2,1} h_{5,2} h_{7,1} - 144 h_{0,3} h_{1,2}^2 h_{2,1} h_{4,1} h_{6,1} + 36 h_{0,3} h_{2,2} h_{3,1} h_{4,1} h_{5,1} - 8 h_{1,2} h_{2,1} h_{3,2} h_{8,1} \\
& +48 h_{2,2} h_{1,2} h_{2,1} h_{4,1} h_{5,2} - 192 h_{1,2} h_{2,1} h_{2,2}^2 h_{3,2} h_{4,1} - 144 h_{0,3} h_{2,1}^2 h_{2,2} h_{4,1} h_{4,2} - h_{2,3} h_{4,1}^3 \\
& +36 h_{0,3} h_{1,2} h_{3,1} h_{4,1} h_{6,1} - \frac{9}{2} h_{2,1}^4 h_{3,3}^2 - 32 h_{1,2}^6 h_{4,1}^2 - 2 h_{3,2}^2 h_{4,1}^2 + h_{4,1}^2 h_{6,2} - 512 h_{1,2}^{10} h_{2,1}^2 \\
& +h_{2,2} h_{6,1}^2 - 2 h_{1,2}^2 h_{6,1}^2 - 2 h_{2,1}^2 h_{5,2}^2 - 144 h_{2,2} h_{1,2} h_{1,3} h_{3,1}^2 h_{4,1} + 480 h_{2,2} h_{1,2} h_{1,4} h_{2,1}^2 h_{3,1}^2 \\
& -144 h_{2,2} h_{1,2} h_{2,1} h_{3,1}^2 h_{3,3} + 320 h_{2,2} h_{1,2} h_{0,4} h_{2,1} h_{3,1}^3 - 144 h_{2,2} h_{1,3} h_{2,1} h_{3,1}^2 h_{3,2} + h_{4,2} h_{5,1}^2 \\
& +960 h_{3,1} h_{1,2}^2 h_{2,1} h_{2,2}^2 h_{3,2} - 96 h_{1,2} h_{1,4} h_{2,1} h_{3,1}^2 h_{4,1} - 96 h_{1,2} h_{0,4} h_{2,1} h_{3,1}^2 h_{5,1} - 8 h_{1,2}^4 h_{5,1}^2 \\
& +36 h_{3,1} h_{1,2} h_{2,1} h_{3,3} h_{5,1} + 16 h_{2,1}^2 h_{5,2}^5 + 24 h_{3,1} h_{0,4} h_{2,1} h_{4,1} h_{5,1} + 36 h_{3,1} h_{2,2} h_{1,3} h_{2,1} h_{6,1} \\
& -1920 h_{3,1} h_{2,2} h_{1,2}^4 h_{2,1} h_{3,2} - 192 h_{3,1} h_{2,2} h_{1,2}^2 h_{2,1} h_{5,2} - 192 h_{3,1} h_{2,2} h_{1,2}^2 h_{3,2} h_{4,1} - h_{6,1} h_{8,1} \\
& +720 h_{3,1} h_{2,2} h_{1,2}^2 h_{2,1}^2 h_{3,3} + 640 h_{3,1} h_{2,2} h_{1,2}^3 h_{2,1} h_{4,2} + 480 h_{3,1} h_{1,2}^2 h_{1,4} h_{2,1}^2 h_{4,1} - h_{5,1} h_{9,1}
\end{aligned}$$

$$\begin{aligned}
& +36 h_{3,1} h_{1,2} h_{1,3} h_{4,1} h_{5,1} - 96 h_{3,1} h_{1,2} h_{0,4} h_{2,1} h_{4,1}^2 - 96 h_{3,1} h_{1,2} h_{1,4} h_{2,1}^2 h_{5,1} - 2 h_{2,2}^2 h_{5,1}^2 \\
& -96 h_{3,1} h_{1,2} h_{2,1}^2 h_{2,4} h_{4,1} - 96 h_{2,2} h_{0,4} h_{2,1} h_{3,1}^2 h_{4,1} - 192 h_{3,1} h_{1,2} h_{2,1} h_{2,2}^2 h_{4,2} \\
& +480 h_{1,2}^2 h_{0,4} h_{2,1} h_{3,1}^2 h_{4,1} + 36 h_{3,1} h_{2,2} h_{2,1} h_{3,3} h_{4,1} + 36 h_{3,1} h_{1,2} h_{2,1} h_{4,1} h_{4,3} \\
& +200 h_{3,1} h_{1,2} h_{0,5} h_{2,1}^3 h_{4,1} - 1920 h_{3,1} h_{2,2} h_{1,2}^2 h_{1,4} h_{2,1}^3 - 192 h_{2,2} h_{1,2}^2 h_{2,1} h_{3,2} h_{5,1} \\
& -144 h_{1,3} h_{2,1}^2 h_{1,2} h_{3,2} h_{5,1} + 540 h_{0,3}^2 h_{2,1}^2 h_{2,2} h_{3,1} h_{5,1} - 2160 h_{0,3}^2 h_{2,1}^3 h_{2,2} h_{3,1} h_{3,2} \\
& +7560 h_{0,3}^2 h_{2,1}^4 h_{1,2} h_{2,2} h_{3,2} - 2160 h_{0,3}^2 h_{2,1}^3 h_{1,2} h_{2,2} h_{5,1} - 2160 h_{0,3}^2 h_{2,1}^3 h_{1,2} h_{3,2} h_{4,1} \\
& +640 h_{2,2} h_{1,2}^3 h_{2,1} h_{3,2} h_{4,1} - 192 h_{2,2} h_{1,2}^2 h_{2,1} h_{4,1} h_{4,2} + 540 h_{0,3}^2 h_{2,1}^2 h_{1,2} h_{4,1} h_{5,1} \\
& -30240 h_{0,3}^3 h_{2,1}^4 h_{1,2} h_{3,1} h_{2,2} + 7560 h_{0,3}^3 h_{2,1}^3 h_{1,2} h_{3,1} h_{4,1} + 15120 h_{0,3}^2 h_{2,1}^3 h_{1,2} h_{3,1} h_{2,2}^2 \\
& -2160 h_{0,3}^2 h_{2,1}^3 h_{1,2} h_{3,1} h_{4,2} - 80640 h_{0,3}^2 h_{2,1}^3 h_{3,1} h_{1,2}^3 h_{2,2} + 15120 h_{0,3}^2 h_{2,1}^2 h_{3,1} h_{1,2}^3 h_{4,1} \\
& +15120 h_{0,3}^2 h_{2,1}^3 h_{3,1} h_{1,2}^2 h_{3,2} - 3240 h_{0,3}^2 h_{2,1}^2 h_{3,1} h_{1,2}^2 h_{5,1} + 22680 h_{0,3}^2 h_{2,1}^2 h_{1,2}^2 h_{2,2} h_{3,1}^2 \\
& +15120 h_{0,3}^2 h_{2,1}^3 h_{1,2}^2 h_{2,2} h_{4,1} - 3240 h_{0,3}^2 h_{2,1}^2 h_{1,2} h_{3,1}^2 h_{3,2} + 540 h_{0,3}^2 h_{2,1}^2 h_{1,2} h_{3,1} h_{6,1} \\
& -9072 h_{2,3} h_{2,1}^5 h_{1,2}^2 h_{0,3}^2 - 10080 h_{2,3} h_{2,1}^4 h_{1,2}^4 h_{0,3} + 1008 h_{2,3} h_{2,1}^5 h_{1,2}^2 h_{0,4} - h_{12,1} h_{2,1} \\
& +2016 h_{2,3} h_{2,1}^2 h_{1,2}^5 h_{3,1} + 3360 h_{2,3} h_{2,1}^3 h_{1,2}^4 h_{2,2} + 2520 h_{2,3} h_{2,1}^4 h_{1,2}^3 h_{1,3} - h_{8,3} h_{2,1}^3 \\
& -720 h_{2,3} h_{2,1}^2 h_{1,2}^4 h_{4,1} - 960 h_{2,3} h_{2,1}^3 h_{1,2}^3 h_{3,2} - 1440 h_{2,3} h_{2,1}^3 h_{1,2}^2 h_{2,2}^2 + h_{6,4} h_{2,1}^4 \\
& +1440 h_{0,3} h_{2,1} h_{1,2} h_{3,1} h_{2,2}^2 h_{4,1} + 240 h_{2,3} h_{2,1}^2 h_{1,2}^3 h_{5,1} + 240 h_{2,3} h_{2,1}^3 h_{1,2}^2 h_{4,2} + h_{10,2} h_{2,1}^2 \\
& +90 h_{2,3} h_{2,1}^4 h_{1,2} h_{3,3} - 72 h_{2,3} h_{2,1}^2 h_{1,2}^2 h_{6,1} - 48 h_{2,3} h_{2,1}^3 h_{1,2} h_{5,2} + 18 h_{2,3} h_{2,1}^2 h_{1,2} h_{7,1} \\
& -810 h_{2,3} h_{2,1}^3 h_{0,3}^2 h_{3,1}^2 + 120 h_{2,3} h_{2,1}^3 h_{0,4} h_{3,1}^2 + 60 h_{2,3} h_{2,1}^4 h_{1,4} h_{3,1} - 36 h_{2,3} h_{2,1}^3 h_{3,1} h_{3,3} \\
& +18 h_{2,3} h_{2,1}^2 h_{3,1} h_{5,2} + 180 h_{2,3} h_{2,1}^3 h_{1,2} h_{3,1} - 720 h_{2,3} h_{2,1}^4 h_{1,2}^2 h_{3,1}^2 - 36 h_{2,3} h_{2,1} h_{1,3} h_{3,1}^3 \\
& -72 h_{2,3} h_{2,1} h_{2,2}^2 h_{3,1}^2 + 18 h_{2,3} h_{2,1} h_{3,1}^2 h_{4,2} - 6 h_{2,3} h_{2,1} h_{3,1} h_{7,1} + 90 h_{1,3} h_{2,1}^4 h_{2,3} h_{3,2} \\
& +90 h_{0,3} h_{2,1}^4 h_{2,3} h_{4,2} + 1440 h_{0,3} h_{2,1}^2 h_{1,2} h_{2,2} h_{3,2} h_{4,1} + 1440 h_{0,3} h_{2,1}^2 h_{1,2} h_{3,1} h_{2,2} h_{4,2} \\
& -8640 h_{0,3} h_{2,1}^2 h_{3,1} h_{1,2}^2 h_{2,2} h_{3,2} - 288 h_{0,3} h_{1,2} h_{2,1} h_{2,2} h_{4,1} h_{5,1} + 48 h_{2,2} h_{1,2} h_{2,1} h_{3,2} h_{6,1} \\
& -192 h_{2,2} h_{1,2} h_{2,1}^2 h_{3,2} h_{4,2} + 48 h_{2,2} h_{1,2} h_{2,1} h_{4,2} h_{5,1} - 4320 h_{2,3} h_{2,1}^3 h_{1,2} h_{0,3} h_{2,2} h_{3,1} \\
& +1080 h_{2,3} h_{2,1}^2 h_{1,2} h_{0,3} h_{3,1} h_{4,1} - 288 h_{2,3} h_{2,1} h_{1,2} h_{2,2} h_{3,1} h_{4,1} + 36 h_{3,1} h_{3,2} h_{1,3} h_{2,1} h_{5,1} \\
& +1080 h_{1,3} h_{2,1} h_{0,3} h_{1,2} h_{3,1}^2 h_{4,1} + 320 h_{3,1} h_{3,2} h_{1,2} h_{1,4} h_{2,1}^3 - 144 h_{3,1} h_{3,2} h_{1,2} h_{2,1}^2 h_{3,3} \\
& +1440 h_{1,3} h_{2,1} h_{3,1} h_{1,2}^2 h_{2,2} h_{4,1} + 48 h_{3,1} h_{3,2} h_{1,2} h_{2,1} h_{5,2} - 288 h_{1,3} h_{2,1} h_{3,1} h_{1,2} h_{3,2} h_{4,1} \\
& -192 h_{3,1} h_{3,2} h_{1,2}^2 h_{2,1} h_{4,2} - 144 h_{3,1} h_{1,2}^2 h_{2,1} h_{3,3} h_{4,1} - 288 h_{1,3} h_{2,1} h_{3,1} h_{1,2} h_{2,2} h_{5,1} \\
& +1440 h_{1,3} h_{2,1}^2 h_{3,1} h_{1,2} h_{2,2} h_{3,2} - 6480 h_{1,3} h_{2,1}^2 h_{3,1} h_{0,3} h_{1,2}^2 h_{4,1} + 48 h_{3,1} h_{2,2} h_{1,2} h_{4,1} h_{4,2} \\
& +30240 h_{1,3} h_{2,1}^3 h_{3,1} h_{0,3} h_{1,2}^2 h_{2,2} - 96 h_{3,1} h_{2,2} h_{1,4} h_{2,1}^2 h_{4,1} - 288 h_{0,3} h_{2,1} h_{1,2} h_{3,1} h_{3,2} h_{5,1} \\
& -4320 h_{1,3} h_{2,1}^3 h_{3,1} h_{0,3} h_{1,2} h_{3,2} + 1080 h_{1,3} h_{2,1}^2 h_{3,1} h_{0,3} h_{1,2} h_{5,1} - 192 h_{3,1} h_{2,2} h_{1,2} h_{2,1} h_{3,2}^2 \\
& +1080 h_{1,3} h_{2,1}^2 h_{3,1} h_{0,3} h_{2,2} h_{4,1} - 144 h_{3,1} h_{2,2} h_{1,2} h_{4,3} h_{2,1}^2 + 1440 h_{0,3} h_{2,1} h_{3,1} h_{1,2}^2 h_{3,2} h_{4,1} \\
& -6480 h_{1,3} h_{2,1}^2 h_{0,3} h_{1,2} h_{2,2} h_{3,1}^2 - 4320 h_{1,3} h_{2,1}^3 h_{0,3} h_{1,2} h_{2,2} h_{4,1} - 600 h_{3,1} h_{2,2} h_{1,2} h_{0,5} h_{2,1}^4
\end{aligned}$$

$$\begin{aligned}
& +10080 h_{0,4} h_{2,1}^4 h_{1,2} h_{0,3} h_{2,2} h_{3,1} - 288 h_{0,3} h_{2,1} h_{2,2} h_{3,1} h_{3,2} h_{4,1} + 320 h_{3,1} h_{2,2} h_{1,2} h_{2,4} h_{2,1}^3 \\
& - 2880 h_{0,4} h_{2,1}^3 h_{1,2} h_{0,3} h_{3,1} h_{4,1} + 960 h_{0,4} h_{2,1}^2 h_{1,2} h_{2,2} h_{3,1} h_{4,1} + 48 h_{3,1} h_{2,2} h_{1,2} h_{6,2} h_{2,1} \\
& - 6480 h_{0,3}^2 h_{2,1}^2 h_{1,2} h_{3,1} h_{2,2} h_{4,1} + 1440 h_{0,3} h_{2,1} h_{1,2} h_{2,2} h_{3,1}^2 h_{3,2} + 48 h_{3,1} h_{2,2} h_{1,2} h_{3,2} h_{5,1} \\
& - 5760 h_{0,3} h_{2,1} h_{3,1} h_{1,2}^3 h_{2,2} h_{4,1} + 1440 h_{0,3} h_{2,1} h_{3,1} h_{1,2}^2 h_{2,2} h_{5,1} + 48 h_{3,1} h_{2,2} h_{2,1} h_{3,2} h_{4,2} \\
& - 288 h_{0,3} h_{2,1} h_{1,2} h_{3,1} h_{2,2} h_{6,1} - 288 h_{0,3} h_{2,1} h_{1,2} h_{3,1} h_{4,1} h_{4,2} - 144 h_{2,3} h_{2,1}^5 h_{1,2} h_{1,4} \\
& - 32 h_{1,2} h_{0,4} h_{3,1}^3 h_{4,1} + 18 h_{1,2} h_{2,1} h_{3,1}^2 h_{5,3} + 18 h_{1,2} h_{2,3} h_{3,1}^2 h_{5,1} + 100 h_{1,2} h_{1,5} h_{2,1}^3 h_{3,1}^2 \\
& + 18 h_{1,2} h_{3,1}^2 h_{3,3} h_{4,1} + 240 h_{1,2}^2 h_{2,1}^2 h_{2,4} h_{3,1}^2 - 600 h_{1,2}^2 h_{0,5} h_{2,1}^3 h_{3,1}^2 + 160 h_{1,2}^2 h_{1,4} h_{2,1} h_{3,1}^3 \\
& - 72 h_{1,2}^2 h_{2,3} h_{3,1}^2 h_{4,1} + 18 h_{2,2} h_{0,3} h_{3,1}^2 h_{6,1} - 48 h_{3,2} h_{1,2} h_{1,3} h_{3,1}^3 + 18 h_{3,2} h_{1,3} h_{3,1}^2 h_{4,1} \\
& + 120 h_{1,3} h_{1,4} h_{3,1}^3 h_{3,1}^2 - 54 h_{1,3} h_{2,1}^2 h_{3,1}^2 h_{3,3} + 18 h_{1,3} h_{2,1} h_{3,1}^2 h_{5,2} + 100 h_{1,2} h_{0,5} h_{2,1}^2 h_{3,1}^3 \\
& - 48 h_{1,2} h_{2,1}^2 h_{3,1}^2 h_{3,4} - 32 h_{1,2} h_{2,1} h_{2,4} h_{3,1}^3 - 72 h_{0,3} h_{2,1} h_{1,2}^2 h_{5,1}^2 + 18 h_{0,3} h_{2,1} h_{2,2} h_{5,1}^2 \\
& - 6 h_{0,3} h_{2,1} h_{5,1} h_{7,1} + 18 h_{3,2} h_{0,3} h_{3,1}^2 h_{5,1} - 48 h_{3,2} h_{1,4} h_{2,1}^2 h_{3,1}^2 + 18 h_{3,2} h_{2,1} h_{3,1}^2 h_{3,3} \\
& - 32 h_{3,2} h_{0,4} h_{2,1} h_{3,1}^3 + 24 h_{3,2} h_{1,2} h_{3,1}^2 h_{4,2} - 72 h_{1,2}^2 h_{1,3} h_{3,1}^2 h_{5,1} - 640 h_{1,2}^3 h_{0,4} h_{2,1} h_{3,1}^3 \\
& + 240 h_{1,2}^3 h_{1,3} h_{3,1}^2 h_{4,1} - 960 h_{1,2}^3 h_{1,4} h_{2,1}^2 h_{3,1}^2 + 240 h_{1,2}^3 h_{2,1} h_{3,1}^2 h_{3,3} - 72 h_{1,2}^2 h_{2,1} h_{3,1}^2 h_{4,3} \\
& - 48 h_{2,2} h_{2,1}^2 h_{2,4} h_{3,1}^2 + 100 h_{2,2} h_{0,5} h_{2,1}^3 h_{3,1}^2 - 32 h_{2,2} h_{1,4} h_{2,1} h_{3,1}^3 - 48 h_{2,2} h_{1,2} h_{2,3} h_{3,1}^3 \\
& + 24 h_{2,2} h_{1,2} h_{3,1}^2 h_{5,2} + 18 h_{2,2} h_{2,3} h_{3,1}^2 h_{4,1} + 18 h_{1,2} h_{1,3} h_{3,1}^2 h_{6,1} - 144 h_{0,3} h_{2,1}^5 h_{3,2} h_{1,4} \\
& + 90 h_{0,3} h_{2,1}^4 h_{3,2} h_{3,3} - 48 h_{0,3} h_{2,1}^3 h_{3,2} h_{5,2} + 18 h_{0,3} h_{2,1}^2 h_{3,2} h_{7,1} + 3360 h_{0,3} h_{2,1}^3 h_{1,2}^4 h_{4,2} \\
& - 36 h_{0,3} h_{2,1}^3 h_{3,3} h_{5,1} + 18 h_{0,3} h_{2,1}^2 h_{5,1} h_{5,2} + 2016 h_{0,3} h_{2,1}^2 h_{1,2}^5 h_{5,1} + 60 h_{0,3} h_{2,1}^4 h_{1,4} h_{5,1} \\
& - 1440 h_{0,3} h_{2,1}^3 h_{1,2}^2 h_{3,2}^2 - 540 h_{0,3} h_{2,1}^4 h_{1,2}^2 h_{4,3} + 90 h_{0,3} h_{2,1}^4 h_{1,2} h_{5,3} + 60 h_{0,3} h_{2,1}^4 h_{3,1} h_{3,4} \\
& + 1008 h_{0,3} h_{2,1}^5 h_{1,2}^2 h_{2,4} - 72 h_{0,3} h_{2,1}^2 h_{1,2}^2 h_{8,1} - 1680 h_{0,3} h_{2,1}^6 h_{0,5} h_{1,2}^2 + 18 h_{0,3} h_{2,1}^2 h_{1,2} h_{9,1} \\
& + 210 h_{0,3} h_{2,1}^6 h_{1,2} h_{1,5} - 48 h_{0,3} h_{2,1}^3 h_{1,2} h_{7,2} - 144 h_{0,3} h_{2,1}^5 h_{1,2} h_{3,4} + 240 h_{0,3} h_{2,1}^3 h_{1,2}^2 h_{6,2} \\
& - 36 h_{0,3} h_{2,1}^3 h_{3,1} h_{5,3} - 90 h_{0,3} h_{2,1}^5 h_{3,1} h_{1,5} + 18 h_{0,3} h_{2,1}^2 h_{3,1} h_{7,2} + 2520 h_{0,3} h_{2,1}^4 h_{1,2}^3 h_{3,3} \\
& + 180 h_{0,3}^2 h_{2,1} h_{3,1}^3 h_{3,2} - 54 h_{0,3}^2 h_{2,1} h_{3,1}^2 h_{6,1} + 120 h_{0,3} h_{2,1}^3 h_{2,4} h_{3,1}^2 - 225 h_{0,3} h_{2,1}^4 h_{0,5} h_{3,1}^2 \\
& + 120 h_{0,3} h_{2,1}^2 h_{1,4} h_{3,1}^3 - 54 h_{0,3} h_{2,1}^2 h_{3,1}^2 h_{4,3} + 1890 h_{0,3}^3 h_{2,1}^4 h_{3,1} h_{3,2} + 180 h_{0,3}^2 h_{2,1}^3 h_{3,1} h_{5,2} \\
& - 540 h_{0,3}^3 h_{2,1}^3 h_{3,1} h_{5,1} + 756 h_{0,3}^2 h_{2,1}^5 h_{1,4} h_{3,1} - 405 h_{0,3}^2 h_{2,1}^4 h_{3,1} h_{3,3} - 480 h_{0,4} h_{2,1}^4 h_{1,2}^2 h_{4,2} \\
& - 810 h_{0,3}^2 h_{2,1}^2 h_{1,3} h_{3,1}^3 - 1620 h_{0,3}^2 h_{2,1}^2 h_{2,2}^2 h_{3,1}^2 - 810 h_{0,3}^3 h_{2,1}^2 h_{3,1}^2 h_{4,1} - 144 h_{0,4} h_{2,1}^5 h_{1,2} h_{3,3} \\
& - 54 h_{0,3}^2 h_{2,1}^2 h_{3,1} h_{7,1} + 3780 h_{0,3}^3 h_{2,1}^2 h_{1,2} h_{3,1}^3 - 20160 h_{0,3}^2 h_{2,1}^4 h_{1,2}^3 h_{3,2} + 6 h_{1,2} h_{3,1}^3 h_{4,3} \\
& - 7168 h_{0,4} h_{2,1}^3 h_{1,2}^5 h_{3,1} - 8960 h_{0,4} h_{2,1}^4 h_{1,2}^4 h_{2,2} + 2240 h_{0,4} h_{2,1}^3 h_{1,2}^4 h_{4,1} - 8 h_{1,2} h_{1,4} h_{3,1}^4 \\
& + 3360 h_{0,4} h_{2,1}^4 h_{1,2}^2 h_{2,2}^2 + 224 h_{0,4} h_{2,1}^6 h_{1,2} h_{1,4} - 640 h_{0,4} h_{2,1}^3 h_{1,2}^3 h_{5,1} - 48 h_{1,2}^2 h_{3,1}^2 h_{3,2}^2 \\
& - 30240 h_{0,3}^2 h_{2,1}^4 h_{1,2}^2 h_{2,2}^2 + 3780 h_{0,3}^3 h_{2,1}^3 h_{2,2} h_{3,1}^2 + 270 h_{0,3}^2 h_{2,1}^2 h_{3,1}^2 h_{4,2} - 4 h_{1,2} h_{3,1}^2 h_{7,2} \\
& + 160 h_{0,4} h_{2,1}^3 h_{1,2}^2 h_{6,1} + 80 h_{0,4} h_{2,1}^4 h_{1,2} h_{5,2} - 32 h_{0,4} h_{2,1}^3 h_{1,2} h_{7,1} + 1890 h_{0,4} h_{2,1}^4 h_{0,3}^2 h_{3,1}^2 \\
& - 96 h_{0,4} h_{2,1}^5 h_{1,4} h_{3,1} + 60 h_{0,4} h_{2,1}^4 h_{3,1} h_{3,3} - 32 h_{0,4} h_{2,1}^3 h_{3,1} h_{5,2} + 672 h_{0,4}^2 h_{2,1}^5 h_{1,2} h_{3,1}
\end{aligned}$$

$$\begin{aligned}
& +3360 h_{0,4} h_{2,1}^2 h_{1,2}^4 h_{3,1}^2 + 120 h_{0,4} h_{2,1}^2 h_{1,3} h_{3,1}^3 + 240 h_{0,4} h_{2,1}^2 h_{2,2}^2 h_{3,1}^2 - 48 h_{0,4} h_{2,1}^2 h_{3,1}^2 h_{4,2} \\
& +12 h_{0,4} h_{2,1}^2 h_{3,1} h_{7,1} + 6720 h_{0,3} h_{2,1}^3 h_{1,2}^2 h_{2,2}^3 - 720 h_{0,3} h_{2,1}^2 h_{1,2}^4 h_{6,1} - 960 h_{0,3} h_{2,1}^3 h_{1,2}^3 h_{5,2} \\
& +240 h_{0,3} h_{2,1}^2 h_{1,2}^3 h_{7,1} - 10 h_{1,5} h_{2,1}^2 h_{3,1}^3 + 13824 h_{0,3} h_{2,1}^2 h_{3,1} h_{1,2}^7 + 5040 h_{0,3}^2 h_{2,1}^3 h_{1,2}^3 h_{3,1}^3 \\
& -5376 h_{0,3} h_{2,1}^2 h_{1,2}^6 h_{4,1} - 10752 h_{0,3} h_{2,1}^3 h_{1,2}^5 h_{3,2} - 26880 h_{0,3} h_{2,1}^3 h_{1,2}^4 h_{2,2}^2 + 4 h_{2,1} h_{3,1}^3 h_{3,4} \\
& -5376 h_{0,3} h_{2,1}^5 h_{1,2}^3 h_{1,4} + 15 h_{0,6} h_{2,1}^4 h_{3,1}^2 + 3780 h_{1,3}^2 h_{2,1}^4 h_{1,2}^2 h_{2,2} - 405 h_{1,3}^2 h_{2,1}^4 h_{0,3} h_{4,1} \\
& -1080 h_{1,3}^2 h_{2,1}^3 h_{1,2}^2 h_{4,1} + 180 h_{1,3}^2 h_{2,1}^3 h_{2,2} h_{4,1} - 810 h_{1,3}^2 h_{2,1}^3 h_{0,3} h_{3,1}^2 - 5 h_{0,5} h_{2,1} h_{3,1}^4 \\
& -1620 h_{1,3}^2 h_{2,1}^2 h_{1,2}^2 h_{3,1}^2 + 6 h_{2,1}^2 h_{3,1}^2 h_{4,4} + 270 h_{1,3}^2 h_{2,1}^2 h_{2,2} h_{3,1}^2 + 5040 h_{1,3}^2 h_{2,1}^3 h_{3,1} h_{1,2}^3 \\
& +32256 h_{0,3} h_{2,1}^3 h_{1,2}^6 h_{2,2} + 2240 h_{0,4} h_{2,1}^4 h_{1,2}^3 h_{3,2} - 5376 h_{1,3} h_{2,1}^2 h_{3,1} h_{1,2}^6 - 3 h_{2,1} h_{3,1}^2 h_{6,3} \\
& -9072 h_{1,3}^2 h_{2,1}^5 h_{0,3} h_{1,2}^2 + 18144 h_{0,4} h_{2,1}^6 h_{1,2}^2 h_{0,3}^2 + 24192 h_{0,4} h_{2,1}^5 h_{1,2}^4 h_{0,3} \\
& +60 h_{1,3} h_{2,1}^4 h_{1,4} h_{4,1} + 90 h_{1,3} h_{2,1}^4 h_{2,2} h_{3,3} + 240 h_{1,3} h_{2,1}^3 h_{2,2}^2 h_{3,2} - 36 h_{1,3} h_{2,1}^3 h_{0,3} h_{7,1} \\
& -72 h_{1,3} h_{2,1}^2 h_{1,2}^2 h_{7,1} - 48 h_{1,3} h_{2,1}^3 h_{2,2} h_{5,2} - 36 h_{1,3} h_{2,1}^3 h_{3,3} h_{4,1} + 240 h_{1,3} h_{2,1}^2 h_{3,1} h_{2,2}^3 \\
& +18 h_{1,3} h_{2,1}^2 h_{2,2} h_{7,1} + 18 h_{1,3} h_{2,1}^2 h_{4,1} h_{5,2} - 4536 h_{1,3} h_{2,1}^5 h_{3,1} h_{0,3}^3 - 72 h_{1,3} h_{2,1}^2 h_{2,2}^2 h_{5,1} \\
& +180 h_{1,3}^2 h_{2,1} h_{1,2} h_{3,1}^3 + 13608 h_{1,3} h_{2,1}^6 h_{0,3}^3 h_{1,2} + 54432 h_{1,3} h_{2,1}^5 h_{0,3}^2 h_{1,2}^3 - 3 h_{3,1}^2 h_{3,3} h_{5,1} \\
& +36288 h_{1,3} h_{2,1}^4 h_{0,3} h_{1,2}^5 - 5376 h_{1,3} h_{2,1}^5 h_{0,4} h_{1,2}^3 - 10752 h_{1,3} h_{2,1}^3 h_{1,2}^5 h_{2,2} - 3 h_{2,3} h_{3,1}^2 h_{6,1} \\
& +1134 h_{1,3} h_{2,1}^5 h_{0,3}^2 h_{3,2} + 4 h_{0,4} h_{3,1}^3 h_{5,1} + 252 h_{1,3} h_{2,1}^6 h_{0,3} h_{1,4} + 2016 h_{1,3} h_{2,1}^2 h_{1,2}^5 h_{4,1} \\
& +3360 h_{1,3} h_{2,1}^3 h_{1,2}^4 h_{3,2} + 6720 h_{1,3} h_{2,1}^3 h_{1,2}^3 h_{2,2}^2 + 1008 h_{1,3} h_{2,1}^5 h_{1,2}^2 h_{1,4} + 6 h_{0,4} h_{3,1}^2 h_{4,1}^2 \\
& -405 h_{1,3} h_{2,1}^2 h_{0,3}^3 h_{5,1} - 162 h_{1,3} h_{2,1}^5 h_{0,3} h_{3,3} - 720 h_{1,3} h_{2,1}^2 h_{1,2}^4 h_{5,1} - 54 h_{1,3}^2 h_{2,1} h_{3,1}^2 h_{4,1} \\
& -540 h_{1,3} h_{2,1}^4 h_{1,2}^2 h_{3,3} + 1134 h_{1,3}^2 h_{2,1}^5 h_{0,3} h_{2,2} + 240 h_{1,3} h_{2,1} h_{1,2}^3 h_{4,1}^2 + 18 h_{1,3} h_{2,1} h_{3,2} h_{4,1}^2 \\
& -960 h_{1,3} h_{2,1}^3 h_{1,2}^3 h_{4,2} - 6 h_{1,3} h_{2,1} h_{4,1} h_{7,1} + 2016 h_{1,3} h_{2,1} h_{1,2}^5 h_{3,1}^2 - 960 h_{1,3} h_{2,1}^3 h_{1,2} h_{2,2}^3 \\
& -144 h_{1,3} h_{2,1}^5 h_{1,4} h_{2,2} + 90 h_{1,3} h_{2,1}^4 h_{0,3} h_{5,2} + 240 h_{1,3} h_{2,1}^2 h_{1,2}^3 h_{6,1} + 240 h_{1,3} h_{2,1}^3 h_{1,2}^2 h_{5,2} \\
& -6 h_{3,1} h_{1,3} h_{2,1} h_{8,1} - 36 h_{3,1} h_{1,3} h_{2,1}^3 h_{4,3} - 90 h_{3,1} h_{1,3} h_{2,1}^5 h_{0,5} + 18 h_{3,1} h_{1,3} h_{2,1}^2 h_{6,2} \\
& +60 h_{3,1} h_{1,3} h_{2,1}^4 h_{2,4} - 54 h_{3,1} h_{1,3}^2 h_{2,1}^2 h_{5,1} - 72 h_{3,1} h_{1,2}^2 h_{1,3} h_{4,1}^2 - 32 h_{3,1} h_{1,4} h_{2,1}^3 h_{4,2} \\
& +18 h_{3,1} h_{2,1}^2 h_{3,3} h_{4,2} - 8 h_{3,1} h_{2,1} h_{4,2} h_{5,2} - 6 h_{3,1} h_{1,3} h_{4,1} h_{6,1} - 96 h_{5,1} h_{1,2} h_{0,4} h_{2,1}^2 h_{4,1} \\
& +160 h_{3,1} h_{1,2}^4 h_{2,1} h_{5,2} + 2240 h_{3,1} h_{1,2}^4 h_{1,4} h_{2,1}^3 - 720 h_{3,1} h_{1,2}^4 h_{2,1}^2 h_{3,3} - 64 h_{3,1} h_{1,2} h_{2,2}^3 h_{4,1} \\
& +24 h_{3,1} h_{1,2} h_{2,2}^2 h_{6,1} - 72 h_{3,1} h_{2,1}^2 h_{2,2}^2 h_{3,3} + 24 h_{3,1} h_{2,2}^2 h_{3,2} h_{4,1} - 1280 h_{3,1} h_{1,2}^3 h_{2,1} h_{2,2}^3 \\
& +320 h_{3,1} h_{1,2}^3 h_{2,2}^2 h_{4,1} - 96 h_{3,1} h_{1,2}^2 h_{2,2}^2 h_{5,1} + 36 h_{5,1} h_{1,2} h_{2,1} h_{2,3} h_{4,1} - 64 h_{3,1} h_{1,2}^3 h_{4,1} h_{4,2} \\
& +48 h_{4,1} h_{1,2} h_{2,1} h_{3,2} h_{4,2} - 48 h_{1,3} h_{2,1}^3 h_{3,2} h_{4,2} + 12 h_{1,4} h_{2,1} h_{3,1}^2 h_{5,1} + 12 h_{2,1} h_{2,4} h_{3,1}^2 h_{4,1} \\
& +12 h_{0,4} h_{2,1} h_{3,1}^2 h_{6,1} - 30 h_{0,5} h_{2,1}^2 h_{3,1}^2 h_{4,1} + 18 h_{2,2} h_{1,3} h_{3,1}^2 h_{5,1} + 18 h_{2,2} h_{2,1} h_{3,1}^2 h_{4,3} \\
& +320 h_{2,2} h_{1,2}^3 h_{3,1}^2 h_{3,2} + 240 h_{2,2} h_{1,2}^2 h_{1,3} h_{3,1}^3 - 96 h_{2,2} h_{1,2}^2 h_{3,1}^2 h_{4,2} - 48 h_{2,2} h_{0,3} h_{3,1}^3 h_{3,2} \\
& -96 h_{1,2} h_{2,2}^2 h_{3,1}^2 h_{3,2} - 6 h_{3,1} h_{2,1} h_{4,1} h_{5,3} + 12 h_{3,1} h_{1,4} h_{2,1}^2 h_{6,1} - 540 h_{0,3}^2 h_{2,1}^4 h_{2,2} h_{4,2} \\
& -72 h_{0,3} h_{2,1} h_{2,2}^2 h_{4,1}^2 + 18 h_{0,3} h_{2,1} h_{4,1}^2 h_{4,2} - 6 h_{0,3} h_{2,1} h_{4,1} h_{8,1} - 1080 h_{0,3}^2 h_{2,1}^3 h_{2,2}^2 h_{4,1}
\end{aligned}$$

$$\begin{aligned}
& +270 h_{0,3}^2 h_{2,1}^2 h_{2,2} h_{4,1}^2 - 2016 h_{0,3}^2 h_{2,1}^6 h_{2,2} h_{0,4} + 1890 h_{0,3}^3 h_{2,1}^4 h_{2,2} h_{4,1} - 6 h_{3,1} h_{0,3} h_{5,1} h_{6,1} \\
& +180 h_{0,3}^2 h_{2,1}^3 h_{2,2} h_{6,1} + 1134 h_{0,3}^2 h_{2,1}^5 h_{2,2} h_{2,3} - 54 h_{0,3}^2 h_{2,1}^2 h_{4,1} h_{6,1} + 240 h_{0,3} h_{2,1}^2 h_{2,2}^3 h_{4,1} \\
& -72 h_{0,3} h_{2,1}^2 h_{2,2}^2 h_{6,1} + 240 h_{0,3} h_{2,1}^3 h_{2,2} h_{3,2}^2 + 90 h_{0,3} h_{2,1}^4 h_{2,2} h_{4,3} + 210 h_{0,3} h_{2,1}^6 h_{2,2} h_{0,5} \\
& -48 h_{0,3} h_{2,1}^3 h_{2,2} h_{6,2} - 144 h_{0,3} h_{2,1}^5 h_{2,2} h_{2,4} - 540 h_{0,3} h_{2,1}^4 h_{2,2}^2 h_{2,3} + 1008 h_{0,3} h_{2,1}^5 h_{2,2}^2 h_{0,4} \\
& +240 h_{0,3} h_{2,1}^3 h_{2,2}^2 h_{4,2} + 18 h_{0,3} h_{2,1}^2 h_{2,2} h_{8,1} - 72 h_{0,3} h_{2,1}^2 h_{3,2}^2 h_{4,1} - 90 h_{0,3} h_{2,1}^5 h_{0,5} h_{4,1} \\
& +120 h_{0,3} h_{2,1}^3 h_{0,4} h_{4,1}^2 + 60 h_{0,3} h_{2,1}^4 h_{2,4} h_{4,1} - 36 h_{0,3} h_{2,1}^3 h_{4,1} h_{4,3} - 54 h_{0,3} h_{2,1}^2 h_{2,3} h_{4,1}^2 \\
& +18 h_{0,3} h_{2,1}^2 h_{4,1} h_{6,2} + 180 h_{0,3}^2 h_{2,1}^3 h_{4,1} h_{4,2} + 180 h_{0,3}^2 h_{2,1}^3 h_{3,2} h_{5,1} - 405 h_{0,3}^2 h_{2,1}^4 h_{2,3} h_{4,1} \\
& +756 h_{0,3}^2 h_{2,1}^5 h_{0,4} h_{4,1} + 12 h_{1,4} h_{2,1}^5 h_{3,3} + 4 h_{1,4} h_{2,1}^3 h_{7,1} - 3 h_{2,1}^2 h_{3,3} h_{7,1} + 128 h_{3,1} h_{1,2}^7 h_{4,1} \\
& +360 h_{2,3} h_{2,1} h_{0,3} h_{1,2} h_{3,1}^3 + 480 h_{2,3} h_{2,1} h_{1,2}^3 h_{3,1} h_{4,1} + 720 h_{2,3} h_{2,1} h_{1,2}^2 h_{2,2} h_{3,1}^2 \\
& -108 h_{2,3} h_{2,1} h_{0,3} h_{3,1}^2 h_{4,1} - 144 h_{2,3} h_{2,1} h_{1,2}^2 h_{3,1} h_{5,1} - 144 h_{2,3} h_{2,1} h_{1,2} h_{3,1}^2 h_{3,2} \\
& +36 h_{2,3} h_{2,1} h_{2,2} h_{3,1} h_{5,1} + 36 h_{2,3} h_{2,1} h_{3,1} h_{3,2} h_{4,1} + 360 h_{2,3} h_{2,1}^3 h_{1,3} h_{2,2} h_{3,1} \\
& -108 h_{2,3} h_{2,1}^2 h_{1,3} h_{3,1} h_{4,1} - 144 h_{2,3} h_{2,1}^2 h_{2,2} h_{3,1} h_{3,2} + 5670 h_{2,3} h_{2,1}^4 h_{1,2} h_{0,3}^2 h_{3,1} \\
& +7560 h_{2,3} h_{2,1}^4 h_{1,2}^2 h_{0,3} h_{2,2} + 2268 h_{2,3} h_{2,1}^5 h_{1,2} h_{0,3} h_{1,3} - 2160 h_{2,3} h_{2,1}^3 h_{1,2}^2 h_{0,3} h_{4,1} \\
& -3240 h_{2,3} h_{2,1}^2 h_{1,2}^2 h_{0,3} h_{3,1}^2 + 10080 h_{2,3} h_{2,1}^3 h_{1,2}^3 h_{0,3} h_{3,1} - 108 h_{2,3} h_{2,1}^2 h_{0,3} h_{3,1} h_{5,1} \\
& +36 h_{2,3} h_{2,1} h_{1,2} h_{3,1} h_{6,1} - 1080 h_{2,3} h_{2,1}^4 h_{1,2} h_{0,3} h_{3,2} - 720 h_{2,3} h_{2,1}^4 h_{1,2} h_{0,4} h_{3,1} \\
& -2160 h_{2,3} h_{2,1}^3 h_{1,2}^2 h_{1,3} h_{3,1} - 1080 h_{2,3} h_{2,1}^4 h_{1,2} h_{1,3} h_{2,2} + 360 h_{2,3} h_{2,1}^3 h_{1,2} h_{0,3} h_{5,1} \\
& +720 h_{2,3} h_{2,1}^2 h_{1,2}^2 h_{2,2} h_{4,1} + 720 h_{2,3} h_{2,1}^2 h_{1,2}^2 h_{3,1} h_{3,2} + 360 h_{2,3} h_{2,1}^3 h_{1,2} h_{1,3} h_{4,1} \\
& +480 h_{2,3} h_{2,1}^3 h_{1,2} h_{2,2} h_{3,2} + 1134 h_{0,3}^2 h_{2,1}^5 h_{1,2} h_{3,3} + 5040 h_{0,3}^2 h_{2,1}^3 h_{1,2}^3 h_{5,1} - 128 h_{1,2}^8 h_{3,1}^2 \\
& +3780 h_{0,3}^2 h_{2,1}^4 h_{1,2}^2 h_{4,2} - 30240 h_{0,3}^3 h_{2,1}^3 h_{1,2}^2 h_{3,1}^2 - 2880 h_{2,3} h_{2,1}^2 h_{1,2}^3 h_{2,2} h_{3,1} - h_{3,1} h_{11,1} \\
& -72 h_{0,3} h_{1,2}^2 h_{3,1}^2 h_{6,1} + 240 h_{0,3} h_{1,2}^2 h_{3,1}^3 h_{3,2} - 48 h_{0,3} h_{1,2} h_{3,1}^3 h_{4,2} + 240 h_{0,3} h_{1,2} h_{2,2}^2 h_{3,1}^3 \\
& -36 h_{0,3} h_{1,3} h_{3,1}^3 h_{4,1} - 72 h_{0,3} h_{2,2}^2 h_{3,1}^2 h_{4,1} + 18 h_{0,3} h_{1,2} h_{3,1}^2 h_{7,1} + 18 h_{0,3} h_{3,1}^2 h_{4,1} h_{4,2} \\
& +18 h_{0,3} h_{3,1} h_{3,2} h_{4,1}^2 - 6 h_{0,3} h_{3,1} h_{4,1} h_{7,1} + 180 h_{0,3}^2 h_{1,2} h_{3,1}^3 h_{4,1} - 720 h_{0,3} h_{1,2}^4 h_{2,1} h_{4,1}^2 \\
& +90 h_{0,3} h_{1,2} h_{1,3} h_{3,1}^4 + 720 h_{2,3} h_{2,1}^2 h_{1,2} h_{2,2}^2 h_{3,1} - 6 h_{0,3} h_{2,1} h_{3,1} h_{9,1} + 18 h_{0,3} h_{2,1} h_{3,1}^2 h_{6,2} \\
& -72 h_{0,3} h_{2,1} h_{3,1}^2 h_{3,2}^2 - 36 h_{0,3} h_{2,1} h_{3,1}^3 h_{3,3} + 60 h_{0,3} h_{2,1} h_{0,4} h_{3,1}^4 + 240 h_{0,3} h_{2,1} h_{2,2}^3 h_{3,1}^2 \\
& -720 h_{0,3} h_{1,2}^4 h_{3,1}^2 h_{4,1} - 144 h_{1,3} h_{2,1} h_{1,2} h_{3,1}^2 h_{4,2} - 960 h_{0,3} h_{1,2}^3 h_{2,2} h_{3,1}^3 - 1458 h_{0,3}^5 h_{2,1}^7 \\
& +1890 h_{0,3}^3 h_{2,1}^4 h_{1,2} h_{5,1} + 540 h_{2,3} h_{2,1}^2 h_{1,2} h_{1,3} h_{3,1}^2 - 1080 h_{0,3}^2 h_{2,1}^3 h_{1,2}^2 h_{6,1} - 8 h_{2,2}^4 h_{3,1}^2 \\
& +240 h_{0,3} h_{1,2}^3 h_{3,1}^3 h_{4,1} - 1620 h_{0,3}^2 h_{2,1}^2 h_{1,2}^2 h_{4,1}^2 - 144 h_{2,3} h_{2,1}^2 h_{1,2} h_{3,2} h_{4,1} + h_{2,4} h_{3,1}^4 \\
& -30240 h_{0,3}^2 h_{2,1}^2 h_{1,2}^4 h_{3,1}^2 + 90720 h_{0,3}^3 h_{2,1}^4 h_{3,1} h_{1,2}^3 + 72576 h_{0,3}^2 h_{2,1}^3 h_{3,1} h_{1,2}^5 - h_{3,1}^3 h_{5,3} \\
& +54432 h_{0,3}^3 h_{2,1}^5 h_{1,2}^2 h_{2,2} + 90720 h_{0,3}^2 h_{2,1}^4 h_{1,2}^4 h_{2,2} - 15120 h_{0,3}^3 h_{2,1}^4 h_{1,2}^2 h_{4,1} + h_{3,1}^2 h_{8,2} \\
& -2 h_{3,1}^2 h_{4,2}^2 - 20160 h_{0,3}^2 h_{2,1}^3 h_{1,2}^4 h_{4,1} - 540 h_{0,3}^2 h_{2,1}^4 h_{1,2} h_{5,2} + 180 h_{0,3}^2 h_{2,1}^3 h_{1,2} h_{7,1} \\
& -\frac{9}{2} h_{1,3}^2 h_{3,1}^4 + 20412 h_{0,3}^4 h_{2,1}^5 h_{1,2} h_{3,1} - 6048 h_{0,3}^3 h_{2,1}^5 h_{1,2} h_{3,2} - 2016 h_{0,3}^2 h_{2,1}^6 h_{1,2} h_{1,4}
\end{aligned}$$

$$\begin{aligned}
& -5376 h_{0,3} h_{2,1} h_{1,2}^6 h_{3,1}^2 - 144 h_{2,3} h_{2,1}^2 h_{1,2} h_{2,2} h_{5,1} - 144 h_{2,3} h_{2,1}^2 h_{1,2} h_{3,1} h_{4,2} \\
& -810 h_{2,3} h_{2,1}^4 h_{0,3} h_{1,3} h_{3,1} + 360 h_{2,3} h_{2,1}^3 h_{0,3} h_{3,1} h_{3,2} + 540 h_{2,3} h_{2,1}^2 h_{0,3} h_{2,2} h_{3,1}^2 \\
& -144 h_{1,3} h_{2,1} h_{1,2} h_{2,2} h_{4,1}^2 + 36 h_{1,3} h_{2,1} h_{1,2} h_{4,1} h_{6,1} + 36 h_{1,3} h_{2,1} h_{2,2} h_{4,1} h_{5,1} \\
& -144 h_{1,3} h_{2,1} h_{3,1} h_{2,2}^2 h_{4,1} - 1440 h_{1,3} h_{2,1} h_{3,1} h_{1,2}^4 h_{4,1} + 480 h_{1,3} h_{2,1} h_{3,1} h_{1,2}^3 h_{5,1} \\
& -144 h_{1,3} h_{2,1} h_{1,2}^2 h_{4,1} h_{5,1} + 36 h_{1,3} h_{2,1} h_{3,1} h_{4,1} h_{4,2} - 144 h_{1,3} h_{2,1} h_{3,1} h_{1,2}^2 h_{6,1} \\
& +36 h_{1,3} h_{2,1} h_{3,1} h_{1,2} h_{7,1} - 108 h_{1,3} h_{2,1} h_{3,1} h_{0,3} h_{4,1}^2 - 2160 h_{1,3} h_{2,1} h_{0,3} h_{1,2}^2 h_{3,1}^3 \\
& -2880 h_{1,3} h_{2,1} h_{1,2}^3 h_{2,2} h_{3,1}^2 + 720 h_{1,3} h_{2,1} h_{1,2} h_{2,2}^2 h_{3,1}^2 + 720 h_{1,3} h_{2,1} h_{1,2}^2 h_{3,1}^2 h_{3,2} \\
& -144 h_{1,3} h_{2,1}^2 h_{2,2} h_{3,2} h_{4,1} + 7560 h_{1,3} h_{2,1}^4 h_{0,3} h_{1,2}^2 h_{3,2} + 7560 h_{1,3} h_{2,1}^4 h_{0,3} h_{1,2} h_{2,2}^2 \\
& +2016 h_{1,3} h_{2,1}^5 h_{0,4} h_{1,2} h_{2,2} - 2160 h_{1,3} h_{2,1}^3 h_{0,3} h_{1,2}^2 h_{5,1} - 1080 h_{1,3} h_{2,1}^4 h_{0,3} h_{1,2} h_{4,2} \\
& -1080 h_{1,3} h_{2,1}^4 h_{0,3} h_{2,2} h_{3,2} - 720 h_{1,3} h_{2,1}^4 h_{0,4} h_{1,2} h_{4,1} - 2880 h_{1,3} h_{2,1}^2 h_{1,2}^3 h_{2,2} h_{4,1} \\
& +240 h_{0,3} h_{1,2}^3 h_{3,1}^2 h_{5,1} - 2880 h_{1,3} h_{2,1}^3 h_{1,2}^2 h_{2,2} h_{3,2} + 360 h_{1,3} h_{2,1}^3 h_{0,3} h_{1,2} h_{6,1} \\
& +540 h_{1,3} h_{2,1}^2 h_{0,3} h_{1,2} h_{4,1}^2 + 360 h_{1,3} h_{2,1}^3 h_{0,3} h_{2,2} h_{5,1} + 360 h_{1,3} h_{2,1}^3 h_{0,3} h_{3,2} h_{4,1} \\
& +720 h_{1,3} h_{2,1}^2 h_{1,2}^2 h_{2,2} h_{5,1} + 720 h_{1,3} h_{2,1}^2 h_{1,2}^2 h_{3,2} h_{4,1} + 480 h_{1,3} h_{2,1}^3 h_{1,2} h_{2,2} h_{4,2} \\
& +720 h_{1,3} h_{2,1}^2 h_{1,2} h_{2,2}^2 h_{4,1} - 108 h_{1,3} h_{2,1}^2 h_{0,3} h_{4,1} h_{5,1} - 144 h_{1,3} h_{2,1}^2 h_{1,2} h_{2,2} h_{6,1} \\
& -144 h_{1,3} h_{2,1}^2 h_{1,2} h_{4,1} h_{4,2} + 11340 h_{1,3} h_{2,1}^3 h_{0,3} h_{1,2} h_{3,1}^2 + 15120 h_{1,3} h_{2,1}^2 h_{0,3} h_{1,2}^3 h_{3,1}^2 \\
& -1440 h_{1,3} h_{2,1}^3 h_{0,4} h_{1,2} h_{3,1}^2 - 45360 h_{1,3} h_{2,1}^4 h_{3,1} h_{0,3} h_{1,2}^2 - 40320 h_{1,3} h_{2,1}^3 h_{3,1} h_{0,3} h_{1,2}^4 \\
& +5670 h_{1,3} h_{2,1}^4 h_{3,1} h_{0,3} h_{2,2} + 1512 h_{1,3} h_{2,1}^5 h_{3,1} h_{0,3} h_{0,4} - 1620 h_{1,3} h_{2,1}^3 h_{3,1} h_{0,3}^2 h_{4,1} \\
& -2160 h_{1,3} h_{2,1}^3 h_{3,1} h_{0,3} h_{2,2}^2 + 360 h_{1,3} h_{2,1}^3 h_{3,1} h_{0,3} h_{4,2} + 5040 h_{1,3} h_{2,1}^4 h_{3,1} h_{0,4} h_{1,2}^2 \\
& -720 h_{1,3} h_{2,1}^4 h_{3,1} h_{0,4} h_{2,2} + 240 h_{1,3} h_{2,1}^3 h_{3,1} h_{0,4} h_{4,1} - 720 h_{1,3} h_{2,1}^4 h_{3,1} h_{1,2} h_{1,4} \\
& +360 h_{1,3} h_{2,1}^3 h_{3,1} h_{1,2} h_{3,3} + 720 h_{1,3} h_{2,1}^2 h_{3,1} h_{1,2}^2 h_{4,2} - 144 h_{1,3} h_{2,1}^2 h_{3,1} h_{2,2} h_{4,2} \\
& +10080 h_{1,3} h_{2,1}^2 h_{3,1} h_{1,2}^4 h_{2,2} - 4320 h_{1,3} h_{2,1}^2 h_{3,1} h_{1,2}^2 h_{2,2}^2 - 2880 h_{1,3} h_{2,1}^2 h_{3,1} h_{1,2}^3 h_{3,2} \\
& -144 h_{1,3} h_{2,1}^2 h_{3,1} h_{1,2} h_{5,2} - 18144 h_{1,3} h_{2,1}^5 h_{0,3} h_{1,2} h_{2,2} - 4032 h_{1,3} h_{2,1}^6 h_{0,3} h_{0,4} h_{1,2} \\
& -40320 h_{1,3} h_{2,1}^4 h_{0,3} h_{1,2}^3 h_{2,2} + 5670 h_{1,3} h_{2,1}^4 h_{0,3} h_{1,2} h_{4,1} + 10080 h_{1,3} h_{2,1}^3 h_{0,3} h_{1,2}^3 h_{4,1} \\
& +5670 h_{1,3} h_{2,1}^4 h_{3,1} h_{0,3} h_{1,2} - 2160 h_{1,3} h_{2,1}^2 h_{3,1} h_{1,2} h_{2,2} + 540 h_{1,3} h_{2,1}^2 h_{3,1} h_{1,2} h_{4,1} \\
& -1440 h_{0,4} h_{2,1}^2 h_{0,3} h_{1,2} h_{3,1}^3 - 1920 h_{0,4} h_{2,1}^2 h_{1,2}^3 h_{3,1} h_{4,1} - 2880 h_{0,4} h_{2,1}^2 h_{1,2}^2 h_{2,2} h_{3,1}^2 \\
& +360 h_{0,4} h_{2,1}^2 h_{0,3} h_{3,1}^2 h_{4,1} + 480 h_{0,4} h_{2,1}^2 h_{1,2}^2 h_{3,1} h_{5,1} + 480 h_{0,4} h_{2,1}^2 h_{1,2} h_{3,1}^2 h_{3,2} \\
& -96 h_{0,4} h_{2,1}^2 h_{1,2} h_{3,1} h_{6,1} - 96 h_{0,4} h_{2,1}^2 h_{2,2} h_{3,1} h_{5,1} - 96 h_{0,4} h_{2,1}^2 h_{3,1} h_{3,2} h_{4,1} \\
& +240 h_{0,4} h_{2,1}^3 h_{0,3} h_{3,1} h_{5,1} + 320 h_{0,4} h_{2,1}^3 h_{2,2} h_{3,1} h_{3,2} - 12096 h_{0,4} h_{2,1}^5 h_{1,2} h_{0,3}^2 h_{3,1} \\
& -16128 h_{0,4} h_{2,1}^5 h_{1,2}^2 h_{0,3} h_{2,2} + 5040 h_{0,4} h_{2,1}^4 h_{1,2}^2 h_{0,3} h_{4,1} + 10080 h_{0,4} h_{2,1}^3 h_{1,2}^2 h_{0,3} h_{3,1}^2 \\
& +2016 h_{0,4} h_{2,1}^5 h_{1,2} h_{0,3} h_{3,2} + 8960 h_{0,4} h_{2,1}^3 h_{1,2}^3 h_{2,2} h_{3,1} - 720 h_{0,4} h_{2,1}^4 h_{1,2} h_{0,3} h_{5,1} \\
& -1920 h_{0,4} h_{2,1}^3 h_{1,2}^2 h_{2,2} h_{4,1} - 1920 h_{0,4} h_{2,1}^3 h_{1,2}^2 h_{3,1} h_{3,2} - 960 h_{0,4} h_{2,1}^4 h_{1,2} h_{2,2} h_{3,2}
\end{aligned}$$

$$\begin{aligned}
& -1920 h_{0,4} h_{2,1}^3 h_{1,2} h_{2,2}^2 h_{3,1} + 320 h_{0,4} h_{2,1}^3 h_{1,2} h_{2,2} h_{5,1} + 320 h_{0,4} h_{2,1}^3 h_{1,2} h_{3,1} h_{4,2} \\
& + 320 h_{0,4} h_{2,1}^3 h_{1,2} h_{3,2} h_{4,1} - 720 h_{0,4} h_{2,1}^4 h_{0,3} h_{3,1} h_{3,2} - 1440 h_{0,4} h_{2,1}^3 h_{0,3} h_{2,2} h_{3,1}^2 \\
& + 4032 h_{0,3} h_{2,1} h_{3,1} h_{1,2}^5 h_{4,1} - 1440 h_{0,3} h_{2,1} h_{3,1} h_{1,2}^4 h_{5,1} + 480 h_{0,3} h_{2,1} h_{3,1} h_{1,2}^3 h_{6,1} \\
& - 26880 h_{0,4} h_{2,1}^4 h_{1,2}^3 h_{0,3} h_{3,1} - 144 h_{0,3} h_{2,1} h_{3,1} h_{1,2}^2 h_{7,1} + 720 h_{0,3} h_{2,1} h_{1,2}^2 h_{3,1}^2 h_{4,2} \\
& - 4320 h_{0,3} h_{2,1} h_{1,2}^2 h_{2,2}^2 h_{3,1}^2 - 2880 h_{0,3} h_{2,1} h_{1,2}^3 h_{3,1}^2 h_{3,2} - 144 h_{0,3} h_{2,1} h_{1,2} h_{3,1}^2 h_{5,2} \\
& + 36 h_{0,3} h_{2,1} h_{1,2} h_{3,1} h_{8,1} - 144 h_{0,3} h_{2,1} h_{2,2}^2 h_{3,1} h_{5,1} + 360 h_{0,3} h_{2,1} h_{2,2} h_{1,3} h_{3,1}^3 \\
& - 144 h_{0,3} h_{2,1} h_{2,2} h_{3,1}^2 h_{4,2} + 36 h_{0,3} h_{2,1} h_{2,2} h_{3,1} h_{7,1} + 36 h_{0,3} h_{2,1} h_{3,1} h_{4,1} h_{5,2} \\
& + 36 h_{0,3} h_{2,1} h_{3,1} h_{4,2} h_{5,1} + 36 h_{0,3} h_{2,1} h_{3,1} h_{3,2} h_{6,1} - 108 h_{0,3} h_{2,1} h_{1,3} h_{3,1}^2 h_{5,1} \\
& + 10080 h_{0,3} h_{2,1} h_{1,2}^4 h_{2,2} h_{3,1}^2 - 720 h_{0,3} h_{2,1}^4 h_{2,2} h_{1,4} h_{3,1} + 540 h_{0,3}^2 h_{2,1} h_{2,2} h_{3,1}^2 h_{4,1} \\
& - 144 h_{0,3} h_{2,1}^2 h_{2,2} h_{3,1} h_{5,2} + 720 h_{0,3} h_{2,1}^2 h_{2,2}^2 h_{3,1} h_{3,2} + 480 h_{0,3} h_{2,1}^3 h_{1,2} h_{3,2} h_{4,2} \\
& - 144 h_{0,3} h_{2,1}^2 h_{1,2} h_{3,2} h_{6,1} - 108 h_{0,3}^2 h_{2,1} h_{3,1} h_{4,1} h_{5,1} + 240 h_{0,3} h_{2,1}^3 h_{3,1} h_{1,4} h_{4,1} \\
& - 108 h_{0,3} h_{2,1}^2 h_{3,1} h_{3,3} h_{4,1} + 540 h_{0,3} h_{2,1}^2 h_{3,2} h_{1,3} h_{3,1}^2 - 144 h_{0,3} h_{2,1}^2 h_{3,2} h_{3,1} h_{4,2} \\
& + 1260 h_{0,3} h_{2,1}^5 h_{1,2} h_{3,1} h_{0,5} - 144 h_{0,3} h_{2,1}^2 h_{1,2} h_{3,1} h_{6,2} - 720 h_{0,3} h_{2,1}^4 h_{1,2} h_{3,1} h_{2,4} \\
& + 360 h_{0,3} h_{2,1}^3 h_{2,2} h_{3,1} h_{3,3} - 144 h_{0,3} h_{2,1}^2 h_{1,2} h_{4,2} h_{5,1} - 108 h_{0,3} h_{2,1}^2 h_{3,1} h_{1,3} h_{6,1} \\
& + 360 h_{0,3} h_{2,1}^3 h_{1,2} h_{3,1} h_{4,3} - 2160 h_{0,3}^2 h_{2,1} h_{1,2} h_{2,2} h_{3,1}^3 + 540 h_{0,3}^2 h_{2,1} h_{1,2} h_{3,1}^2 h_{5,1} \\
& - 1440 h_{0,3} h_{2,1}^3 h_{1,2} h_{1,4} h_{3,1}^2 + 540 h_{0,3} h_{2,1}^2 h_{1,2} h_{3,1}^2 h_{3,3} + 720 h_{0,3} h_{2,1}^2 h_{1,2}^2 h_{3,2} h_{5,1} \\
& + 10080 h_{0,3} h_{2,1}^2 h_{1,2}^4 h_{2,2} h_{4,1} + 13440 h_{0,3} h_{2,1}^3 h_{1,2}^3 h_{2,2} h_{3,2} - 2880 h_{0,3} h_{2,1}^2 h_{1,2}^3 h_{2,2} h_{5,1} \\
& - 2880 h_{0,3} h_{2,1}^2 h_{1,2}^3 h_{3,2} h_{4,1} - 2880 h_{0,3} h_{2,1}^3 h_{1,2}^2 h_{2,2} h_{4,2} - 4320 h_{0,3} h_{2,1}^2 h_{1,2}^2 h_{2,2}^2 h_{4,1} \\
& + 720 h_{0,3} h_{2,1}^2 h_{1,2}^2 h_{2,2} h_{6,1} + 720 h_{0,3} h_{2,1}^2 h_{1,2}^2 h_{4,1} h_{4,2} - 3240 h_{0,3}^2 h_{2,1} h_{1,2}^2 h_{3,1}^2 h_{4,1} \\
& + 5040 h_{0,3} h_{2,1}^4 h_{3,1} h_{1,2}^2 h_{1,4} - 2160 h_{0,3} h_{2,1}^3 h_{3,1} h_{1,2}^2 h_{3,3} - 2880 h_{0,3} h_{2,1}^2 h_{3,1} h_{1,2}^3 h_{4,2} \\
& - 32256 h_{0,3} h_{2,1}^2 h_{3,1} h_{1,2}^5 h_{2,2} + 20160 h_{0,3} h_{2,1}^2 h_{3,1} h_{1,2}^3 h_{2,2}^2 + 10080 h_{0,3} h_{2,1}^2 h_{3,1} h_{1,2}^4 h_{3,2} \\
& + 720 h_{0,3} h_{2,1}^2 h_{3,1} h_{1,2}^2 h_{5,2} + 720 h_{0,3} h_{2,1}^2 h_{1,2} h_{3,1} h_{3,2}^2 + 2016 h_{0,3} h_{2,1}^5 h_{1,2} h_{1,4} h_{2,2} \\
& - 720 h_{0,3} h_{2,1}^4 h_{1,2} h_{1,4} h_{4,1} - 1080 h_{0,3} h_{2,1}^4 h_{1,2} h_{2,2} h_{3,3} - 2880 h_{0,3} h_{2,1}^3 h_{1,2} h_{2,2}^2 h_{3,2} \\
& + 480 h_{0,3} h_{2,1}^3 h_{1,2} h_{2,2} h_{5,2} + 360 h_{0,3} h_{2,1}^3 h_{1,2} h_{3,3} h_{4,1} + 720 h_{0,3} h_{2,1}^2 h_{1,2} h_{2,2}^2 h_{5,1} \\
& - 144 h_{0,3} h_{2,1}^2 h_{1,2} h_{2,2} h_{7,1} - 144 h_{0,3} h_{2,1}^2 h_{1,2} h_{4,1} h_{5,2} - 2880 h_{0,3} h_{2,1}^2 h_{1,2} h_{3,1} h_{2,2}^3 \\
& + 540 h_{0,3}^2 h_{2,1} h_{1,2} h_{3,1} h_{4,1}^2 + 540 h_{0,3}^2 h_{2,1}^2 h_{3,2} h_{3,1} h_{4,1} + 18 h_{4,1} h_{2,1}^2 h_{2,3} h_{4,2} \\
& - 8 h_{4,1} h_{2,1} h_{3,2} h_{5,2} + 24 h_{4,1} h_{2,2} h_{1,2}^2 h_{6,1} - 8 h_{4,1} h_{2,2} h_{1,2} h_{7,1} - 72 h_{4,1} h_{1,2}^2 h_{4,3} h_{2,1}^2 \\
& - 300 h_{4,1} h_{1,2}^2 h_{0,5} h_{2,1}^4 + 24 h_{4,1} h_{1,2}^2 h_{6,2} h_{2,1} + 160 h_{4,1} h_{1,2}^2 h_{2,4} h_{2,1}^3 + 18 h_{4,1} h_{1,2} h_{5,3} h_{2,1}^2 \\
& + 50 h_{4,1} h_{1,2} h_{1,5} h_{2,1}^4 - 8 h_{4,1} h_{1,2} h_{7,2} h_{2,1} - 32 h_{4,1} h_{1,2} h_{3,4} h_{2,1}^3 - 8 h_{4,1} h_{1,2} h_{3,2} h_{6,1} \\
& + 18 h_{4,1} h_{2,1}^2 h_{3,2} h_{3,3} + 12 h_{4,1} h_{0,4} h_{2,1}^2 h_{6,1} - 32 h_{4,1} h_{1,4} h_{2,1}^3 h_{3,2} - 384 h_{4,1} h_{1,2}^5 h_{2,1} h_{3,2} \\
& - 64 h_{4,1} h_{1,2}^3 h_{2,1} h_{5,2} - 640 h_{4,1} h_{1,2}^3 h_{1,4} h_{2,1}^3 + 240 h_{4,1} h_{1,2}^3 h_{2,1}^2 h_{3,3} + 160 h_{4,1} h_{1,2}^4 h_{2,1} h_{4,2}
\end{aligned}$$

$$-6 h_{4,1} h_{2,1} h_{2,3} h_{6,1} - 96 h_{4,1} h_{1,2}^2 h_{2,1} h_{3,2}^2 + h_{14,0}.$$

References

- [1] A. Atabaigi, H. R. Z. Zangeneh, R. Kazemi, Limit cycle bifurcation by perturbing a cuspidal loop of order 2 in a Hamiltonian system, *Nonlinear Anal.* 75 (2012) 1945-1958.
- [2] A. Atabaigi, H. R. Z. Zangeneh, Bifurcation of limit cycles in small perturbations of a class of hyper-elliptic Hamiltonian systems of degree 5 with a cusp, *J. Appl. Anal. Comput.*, Vol. 1, No. 3 (2011): 299-313.
- [3] M. Han, *Bifurcation Theory of Limit Cycles*, Sci. Press, 2013.
- [4] M. Han, Asymptotic expansions of Melnikov functions and limit cycle bifurcations, *Int. J. Bifurcat. Chaos*, Vol. 22, No.12 (2012) 1250296 (30 pages).
- [5] M. Han, On the number of limit cycles bifurcating from a homoclinic or heterclimic loop. *Sci. China Ser. A*, 1993, **36** (2): 113-132.
- [6] M. Han, Cyclicity of planar homoclinic loops and quadratic integrable systems. *Sci. China Ser. A*, 1997, **40** (12): 1247-1258.
- [7] M. Han, J. Chen, The number of limit cycles bifurcating from a pair of homoclinic loops. *Sci. China Ser. A*, 2000, **30** (5): 401-414.
- [8] M. Han, J. Jiang, H. Zhu, Limit cycles in a planar Hamiltonian systems with a nilpotent center. *Int. J. Bifurcat. Chaos*, 2008, **18** (10): 3013-3027.
- [9] M. Han, C. Shu, J. Yang, A. Chian, Polynimial Hamiltonian systems with a nilpotent critical point. *Advances in Space Research* 2010, **46**: 521-525.
- [10] M. Han, J. Yang, A. Tarta, Y. Gao, Limit cycles near homoclinic and heterclimic loop. *J. Dyn. Diff. Equat.* (2008) **20**: 923-944.
- [11] M. Han, J. Yang, D. Xiao, Limit cycle bifurcations near a double homoclinic loop with a nilpotent saddle, *Int. J. Bifurcat. Chaos*, Vol. 22, No.8 (2012) 1250189 (33 pages).
- [12] M. Han, J. Yang, P. Yu, Hopf bifurcations for near-Hamiltonian systems. *Int. J. Bifurcat. Chaos*, Vol. 19, No. 12 (2009) 4117C4130.

- [13] M. Han, P. Yu, Normal forms, Melnikov functions and bifurcations of limit cycles (Applied Mathematical Sciences Vol.181). Springer-Verlag, 2012.
- [14] M. Han, H. Zang, J. Yang, Limit cycle bifurcations by perturbing a cuspidal loop in a Hamiltonian system. J. Differ. Equations **246** (2009) 129-163.
- [15] Y. Hou, M. Han, Melnikov functions for planar near-Hamiltonian systems and Hopf bifurcations. J. Shanghai Normal University (Natural Sciences), 2006, **35** (1): 1-10.
- [16] J. Li, Hilbert's 16th problem and bifurcations of planar polynomial vector fields, Int. J. Bifurcat. Chaos, 2003, **13** (1): 47-106.
- [17] J. Li, T. Zhang, M. Han, Bifurcation of limit cycles from a heterclinic loop with two cusps, Chaos, Solitons & Fractals, Vol. 62-63, 2014, 44-54.
- [18] R. Roussarie, On the number of limit cycles which appear by perturbation of separatrix loop of planar vector fields. Bol. Soc. Brasil. Mat., 1986, **17** (2): 67-101.
- [19] X. Sun, M. Han, J. Yang, Bifurcation of limit cycles from a heterclinic loop with a cusp, Nonlinear Anal. **74** (2011) 2948-2965.
- [20] J. Su, J. Yang, M. Han, Hopf bifurcation of Liénard systems by perturbing a nilpotent center, Internat. J. Bifur. Chaos Appl. Sci. Engrg., **22**, 1250203 (2012) [7 pages].
- [21] H. Tian, M. Han, Limit cycle bifurcations by perturbing a compound loop with a cusp and a nilpotent saddle, Abstr. Appl. Anal. Vol. 2014, 15 pages.
- [22] J. Yang, M. Han, Limit cycles near a double Homoclinic loop. Ann. Diff. Eqs. **23**: 4 (2007), 536-545.
- [23] J. Yang, On the limit cycles of a kind of Liénard system with a nilpotent center under perturbations, J. Appl. Anal. Comput. Vol. 2, No. 3 (2012): 325-339.